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TESTING OF A MOLECULAR SIEVE USED TO CONTROL MERCURY EMISSION FROM A CHLOR-ALKALI PLANT, VOLUME II. APPENDICES

John T. Chehaske, et al

Engineering-Science, Incorporated

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TESTING OF A MOLECULAR SIEVE USED TO CONTROL MERCURY EMISSION FROM A CHLOR-ALKALI PLANT, VOLUME II - APPENDICES

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The report gives results of performance testing for mercury emission control of a Union Carbide PuraSiv Hg adsorbent unit currently used to control mercury emissions from the by-product hydrogen stream of the mercury-cell chlor-alkali production facility of Sobin Chlor-Alkali in Orrington, Maine. Adsorber inlet and outlet streams were sampled simultaneously during five consecutive 24-hour adsorption cycles, eight sampling runs per cycle, in accordance with a modified version of the EPA Reference Method 102. Inlet mercury concentrations were stable at 6 to 10 mg/normal cu m. Outlet mercury concentrations of 0.5 and 3.5 mg/normal cu m were approached at the beginning and end of each adsorption cycle, respectively. This occurrence was due to the PuraSiv unit's operation at nearly 150% of design capacity of 49.6 normal cu m/min. If operated at design capacity, the estimated outlet mercury concentrations from the PuraSiv Hg unit would average 2.0 micrograms/normal cu m throughout each adsorption cycle, representing a 99.9% collection efficiency.

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APPENDIX A

METHOD OF INTERPRETING STACK SAMPLING DATA

Paper No. 70-34

A METHOD OF INTERPRETING STACK SAMPLING DATA

by

W. S. Smith, R. T. Shigehara, and W. F. Todd

Engineering Section
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ABSTRACT

As more and more emission standards are enacted, control agencies will be faced with the evaluation of stack test data. A mass emission rate or concentration will be either reasonable, high, or low, and the evaluator is faced with the task of determining which is the case.

This paper presents a method using specific calculations to determine whether proper sampling conditions (isokinetic for particulates) were actually attained. By calculating the mass emission rate by two methods - (1) by the ratio of areas and (2) by the concentration basis, the ratio of the results yields the apparent average proportion of isokinetic conditions. In equation form:

$$\overline{pmr}_a = \frac{m_{nt}}{\theta_t} \frac{A_s}{A_n}$$

$$\overline{pmr}_c = \frac{m_{nt}}{V_{nt}} \bar{v}_s A_s$$

$$\text{Ratio of isokinetic} = \frac{pmr_a}{pmr_c}$$

where: $\overline{pmr}_a$ = pollutant mass emission rate calculated on a ratio-of-area basis

$\overline{pmr}_c$ = pollutant mass emission rate calculated on a concentration basis

m_{nt} = pollutant mass collected by the sampling train in total sampling time θ_t

A_s = area of stack cross section

A_n = area of sampling nozzle

V_{nt} = actual metered sample gas volume corrected to stack conditions

$\bar{v}_s$ = average measured stack gas velocity at stack conditions

Further, with evaluation of the data and sampling method, rules of thumb are presented to approximate the true concentration.

KEY WORD: Stack Sampling

A METHOD OF INTERPRETING STACK SAMPLING DATA

W. S. Smith, R. T. Shigehara, and W. F. Todd

Introduction

In order to obtain an average pollutant concentration ($\overline{c}_s$), two basic quantities are required: (1) total quantity of pollutant (pm_{st}) emitted from the stack per time period (θ_t), and (2) total quantity or volume of effluent gas (V_{st}) emitted from the stack for the same time period (θ_t). In equation form:

$$\overline{c}_s = \frac{pm_{st}}{V_{st}} \tag{1}$$

The objective of the stack sampler is to obtain these two basic quantities, pm_{st} and V_{st}. Since they generally cannot be measured in their entirety, multiple measurements are made in order to estimate them. The general approach is to divide the stack cross section into a number of equal areas (N_e) and to traverse the cross section by sampling at the midpoint or centroid of each equal area for equal lengths of time (θ_e). The sample is extracted at a regulated rate, isokinetically for particulates, and proportionally for gaseous pollutants.

The sampler's first assumption is that the sample extracted at the midpoint of the elemental area (A_e) is representative of that area;

i.e., the concentration entering the sampling nozzle (c_n) is equal to the average concentration of the elemental area ($c_{[illegible]}$). The second assumption is that the average concentration ($\overline{c}_n$) obtained from the sampling train, upon traversing, is equal to the average stack concentration ($\overline{c}_s$) as defined by Equation 1. It has been pointed out that the correctness of the above assumptions is dependent on the time and cross-sectional variation of the pollutant concentration.[1] Whether or not the proper sampling approach was used in obtaining a representative sample concentration of the source, however, an evaluation of the stack sampling data can still be made to determine if proper sampling techniques were employed, i.e., isokinetic sampling rates for particulates and proportional rates for gases.

Hemeon and Haines[2] in 1954 pointed out two methods of calculating dust concentrations, and Badzioch[3,4] expounded upon them in 1958 and 1960. For the purpose of this paper, these methods will be referred to as: (1) the ratio-of-area and (2) the sample-concentration calculation methods. Both utilize the inertial properties of the particles. In essence, the above authors have said that when anisokinetic conditions exist, the ratio-of-area calculation method gives better accuracy for very large or coarse particles, and the sample-concentration calculation method gives better accuracy for gases or fume-like (very small) particles. The decision of which method to use is based on prior knowledge of the particle size distribution.

The purpose of this paper is to show how the two methods can be used to interpret stack sampling data.

General Principles

Theory of Sampling Procedure and Calculations

Consider a particulate sampling train with a nozzle of size A_n extracting a sample from an elemental area (A_e) for a time period (θ_e), where θ_e is the total sampling time (θ_t) divided by the total number of elemental or equal areas (N_e). When isokinetic conditions exist, i.e., the stack velocity at the centroid of the elemental area (v_{se}) is equal to the nozzle velocity (v_{ne}), the sampling train automatically integrates the instantaneous pollutant mass emission rate into the probe nozzle (pmr_{ne}) over the time period (θ_e). Mathematically:

$$m_{ne} = \int_{\theta_e} pmr_{ne} d\theta_e = \int_{\theta_e} A_n v_{ne} c_{ne} d\theta_e \qquad (2)$$

where m_{ne} is the pollutant mass collected by the sampling train during time θ_e.

A sample traverse sums the individual m_{ne}'s for all the elemental areas or:

$$m_{nt} = \sum_{e=1}^{N_e} m_{ne} = \sum_{e=1}^{N_e} \int_{\theta_e} A_n v_{ne} c_{ne} d\theta_e \qquad (3)$$

where m_{nt} is the pollutant mass collected by the sampling train during the total sampling time (θ_t). Hereafter, for simplicity, the summation sign (Σ) will denote the summation from e=1 to e=N_e.

The pollutant mass (m_{nt}) is one of the actual data that the sampler receives. This datum (m_{nt}) is used to estimate the average pollutant mass emission rate ($\overline{pmr}_s$) from the stack. This can be accomplished in the following manner.

Dividing Equation 2 through by A_n yields:

$$\frac{m_{ne}}{A_n} = \int_{\theta_e} c_{ne} v_{ne} d\theta_e$$

For isokinetic conditions ($v_{ne} = v_{se}$), using the assumption that the sample concentration is representative of the elemental area concentration ($c_{ne} = c_{se}$), it follows that the pollutant mass from the elemental area (m_{se}/A_e) is:

$$\frac{m_{se}}{A_e} = \int_{\theta_e} c_{se} v_{se} d\theta_e = \int_{\theta_e} c_{ne} v_{ne} d\theta_e = \frac{m_{ne}}{A_n}$$

or $m_{se} = \frac{A_e}{A_n} m_{ne}$ (4)

Dividing Equation 4 by θ_e yields the average pollutant mass emission rate ($\overline{pmr}_{se}$) from the elemental area (A_e):

$$\overline{pmr}_{se} = \frac{m_{se}}{\theta_e} \quad \frac{A_e}{A_n} \frac{m_{ne}}{\theta_e} \tag{5}$$

The sample traverse yields the average pollutant mass rate from the entire stack:

$$\overline{pmr}_s = \Sigma\, pmr_{se} = \Sigma \frac{A_e}{A_n} \frac{m_{ne}}{\theta_e} = \frac{A_e}{A_n \theta_e} \Sigma\, m_{ne} \tag{6}$$

Substituting Equation 3 and using $\theta_e = \frac{\theta_t}{N_e}$ and $A_s = A_e N_e$, Equation 6 can be rewritten as:

$$\overline{pmr}_s = \frac{m_{nt}\ A_s}{\theta_t\ A_n} \tag{7}$$

Equation 7 is the ratio-of-area method of calculation.

The second method of estimating $\overline{pmr}_s$ is to use the average sample concentration ($\bar{c}_n$) and the average stack velocity ($\bar{v}_s$). Notice how this is effected.

The sample volume (V_{ne}) that the sampling train extracts during time (θ_e) from the elemental area (A_e) is also an integrated volume. Mathematically:

$$V_{ne} = \int_{\theta_e} A_n v_{ne} d\theta_e \tag{8}$$

A sample traverse again yields the sum of the volumes defined by Equation 8.

$$V_{nt} = \Sigma\ V_{ne} = \Sigma \int_{\theta_e} A_n V_{ne} d\theta_e \tag{9}$$

By combining Equations 3 and 9, the average sample concentration can be calculated.

$$\bar{c}_n = \frac{m_{nt}}{V_{nt}} \tag{10}$$

It is then assumed that $\bar{c}_n = \bar{c}_s$.

If velocity measurements are taken simultaneously with the pollutant sample and it is assumed that the average stack velocity $(\bar{v}_s) = \frac{\Sigma \bar{v}_{se}}{N_e}$, $\bar{c}_n$ and $\bar{v}_s$ can be used to determine $\overline{pmr}_s$:

$$\overline{pmr}_s = \bar{c}_n \bar{v}_s A_s = \frac{m_{nt}}{V_{nt}} \bar{v}_s A_s \tag{11}$$

Equation 11 is the sample-concentration method of calculation.

The same analogy can be applied to pollutant concentration instead of the pollutant mass emission rate of Equation 7 and Equation 11, yielding the following:

$$\bar{c}_s = \frac{m_{nt}}{V_{nt}} \qquad \text{Sample-Concentration Method} \tag{12}$$

$$\bar{c}_s = \frac{m_{nt}}{\theta_t \bar{v}_s A_n} \qquad \text{Ratio-of-Area Method} \tag{13}$$

Equations 12 and 13 are the equations used by Hemeon and Haines, and by Badzioch. For the sake of brevity, the ensuing discussion will be limited to Equations 7 and 11.

At this point, Equations 7 and 11 will be redefined and summarized to distinguish between the two methods as follows:

$$\overline{pmr}_a = \frac{m_{nt}}{\theta_t} \frac{A_s}{A_n} \tag{7}$$

$$\overline{pmr}_c = \frac{m_{nt}}{V_{nt}} \overline{v}_s A_s \qquad (11)$$

where: $\overline{pmr}_a$ = pollutant mass emission rate calculated on a ratio-of-area basis

$\overline{pmr}_c$ = pollutant mass emission rate calculated on a sample concentration basis

m_{nt} = pollutant mass collected by the sampling train in total sampling time (θ_t)

A_s = area of stack cross section

A_n = area of sampling nozzle

V_{nt} = actual metered sample gas volume corrected to stack conditions

$\overline{v}_s$ = average measured stack gas velocity at stack conditions

Determination of Average Sampling Rate

The ratio $\overline{v}_n$ / $\overline{v}_s$ is the ratio of isokinetic conditions on an average. By taking the ratio of $\overline{pmr}_a$ to $\overline{pmr}_c$, and noting that $\overline{v}_n = V_{nt} / A_n \theta_t$:

$$\frac{\overline{pmr}_a}{\overline{pmr}_c} = \frac{\dfrac{\cancel{m}_{nt}}{\theta_t} \quad \dfrac{\cancel{A}_s}{A_n}}{\dfrac{\cancel{m}_{nt}}{V_{nt}} \overline{v}_s \cancel{A}_s} = \frac{V_{nt}}{A_n \theta_t \overline{v}_s} = \frac{\overline{v}_n}{\overline{v}_s} \qquad (14)$$

We see that $\overline{pmr}_a$ / $\overline{pmr}_c$ is also a measure of the degree of isokinetic conditions on an average. Summarizing in the table below:

Table I. Average Sampling Rate

Ratio, $\overline{pmr}_a$ / $\overline{pmr}_c$	Average Condition
1	Isokinetic
$<$ 1	Underisokinetic
$>$ 1	Overisokinetic

Equation 14 says: (1) that only when isokinetic conditions exist will $\overline{pmr}_a = \overline{pmr}_c$, (2) that in order to determine the ratio $\overline{pmr}_a$ / $\overline{pmr}_c$, it is necessary only to know V_{nt}, θ_t, A_n, and $\overline{v}_s$, and (3) that the ratio $\overline{pmr}_a$ / $\overline{pmr}_c$ is not a function of the characteristic of the pollutant collector (an independent evaluation must be made on the efficiency of the collector).

Discussion and Categories of Sampling Rates

It must be understood what the possibilities of Table I mean. When $\overline{pmr}_a$ / $\overline{pmr}_c \neq 1$, it means that the results are definitely questionable. When $\overline{pmr}_a$ / $\overline{pmr}_c = 1$, it means that isokinetic conditions were maintained on an average during the sampling period, but does not necessarily mean that the results are valid. The integrated volumes can be obtained by sampling at the average stack velocity ($\overline{v}_s$) while traversing such that

$\overline{v}_n = \overline{v}_s$. But because of variation of velocity over the cross section, there are times when anisokinetic conditions will exist. The same situation could arise due to fluctuation of velocity. Since

$$V_{nt} = \overline{v}_s A_n \theta t \tag{15}$$

when $\overline{v}_n = \overline{v}_s$, it should be obvious that the criteria of Table I are valid only if V_{nt} and $\overline{v}_s$ are obtained independently; i.e., V_{nt} is not calculated using Equation 15, or vice versa.

Use of Equation 15 is equivalent to the ratio-of-area method of calculation as this would make $\overline{pmr}_c = \overline{pmr}_a$. Such sampling trains using only a rate meter (orifice, rotameter, cyclone, etc.) or only a null-balance nozzle are not amenable to the criteria of Table I as they are not subject to any cross-check at all. For example, errors could be introduced through:

1. Miscalculation in the sampling rate leading to an improper meter setting.
2. Careless meter or equipment adjustments.
3. Improper calibration of meters or of null-balance nozzles.
4. Misuse through pure ignorance of the operating principles of the rate meters or null-balance nozzles.

In the above conditions, isokinetic rates can be claimed without dispute.

An evaluator can only:

1. Rely on reputation of the sampler.

2. Critically examine the procedure.
3. Check the results using a material balance.
4. Rely on past data whose reliability may also be questionable.

All this points to the fact that a volumetric device such as a dry gas meter is a must in a sampling train if any interpretation is to be made. An independent velocity reading (pitot tube), preferably simultaneous with sampling, is also a must.

With the understanding that the ratio $\overline{pmr}_a / \overline{pmr}_c$ be a function of the independent measurable quantities (V_{nt}, θ_t, A_n, and $\overline{v}_s$, the different sampling conditions can be categorized as shown in Table II.

Table II. Sampling Rate Categories

Case I:	$\overline{pmr}_a / \overline{pmr}_c = 1$ or $\overline{v}_n = \overline{v}_s$
Case II:	$\overline{pmr}_a / \overline{pmr}_c \neq 1$ or $\overline{v}_n \neq \overline{v}_s$

Errors in Proportional Anisokinetic Conditions

Before any guidelines can be established, it must be understood how anisokinetic conditions affect the results because the practical situation says that Case II is the more general situation. Going back to Equation 3, it can be seen that this case ($\overline{v}_n \neq \overline{v}_s$) could affect the amount of pollutant collected.

$$m_{nt} = \Sigma \int_{\theta_e} A_n v_{ne} c_{ne} d\theta_e \qquad (3)$$

The general premise is that when $v_n = v_s$, then $c_n = c_s$; but when $v_n \neq v_s$, $c_n \neq c_s$ except when sampling for gases and small particles. Thus the amount of pollutant collected by the sampling train depends on v_n/v_s and the variation of c_s. The degree of deviation from the time value (c_s) depends on the method of calculation and the particle size distribution.

Hemeon and Haines,[2] and Badzioch[3,4] illustrated the effect under steady state conditions (c_s = constant) of particle sizes depending on the calculation methods when only large particles and only small particles were present. Figures 1 and 2 illustrate this. Figure 3 is a combination of Figures 1 and 2, and Table III summarizes the biases relative to the true $\overline{pmr}_s$.[5]

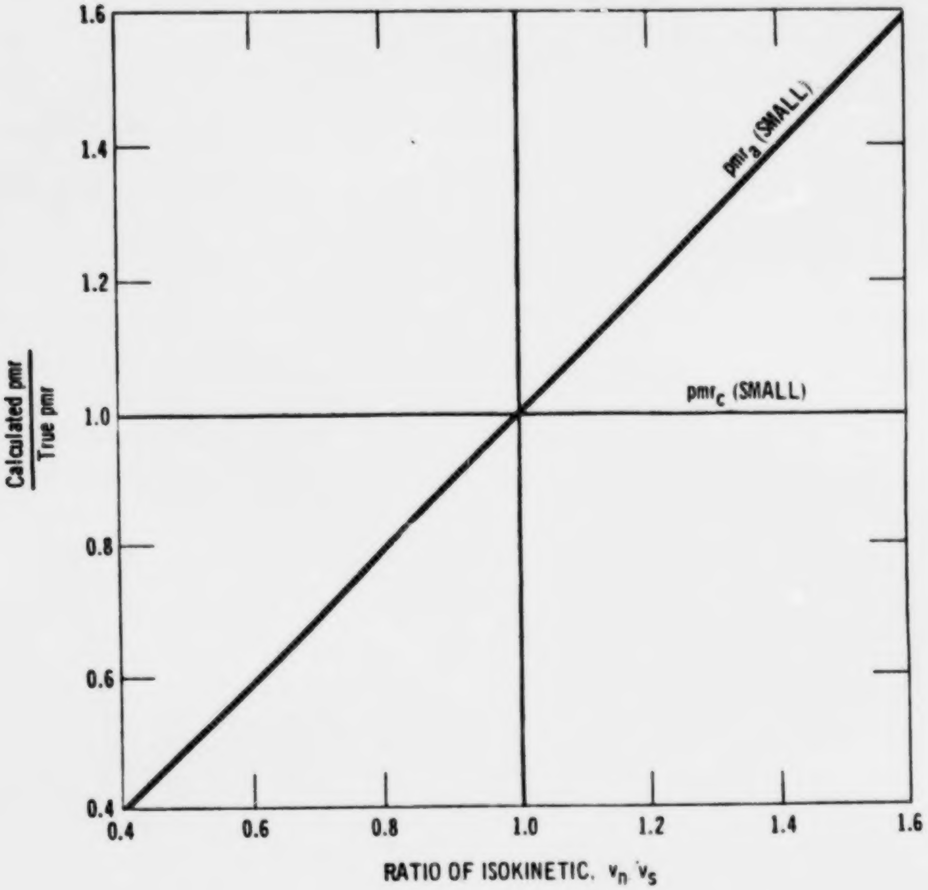

Figure 1. Errors due to anisokinetic conditions (small particles).

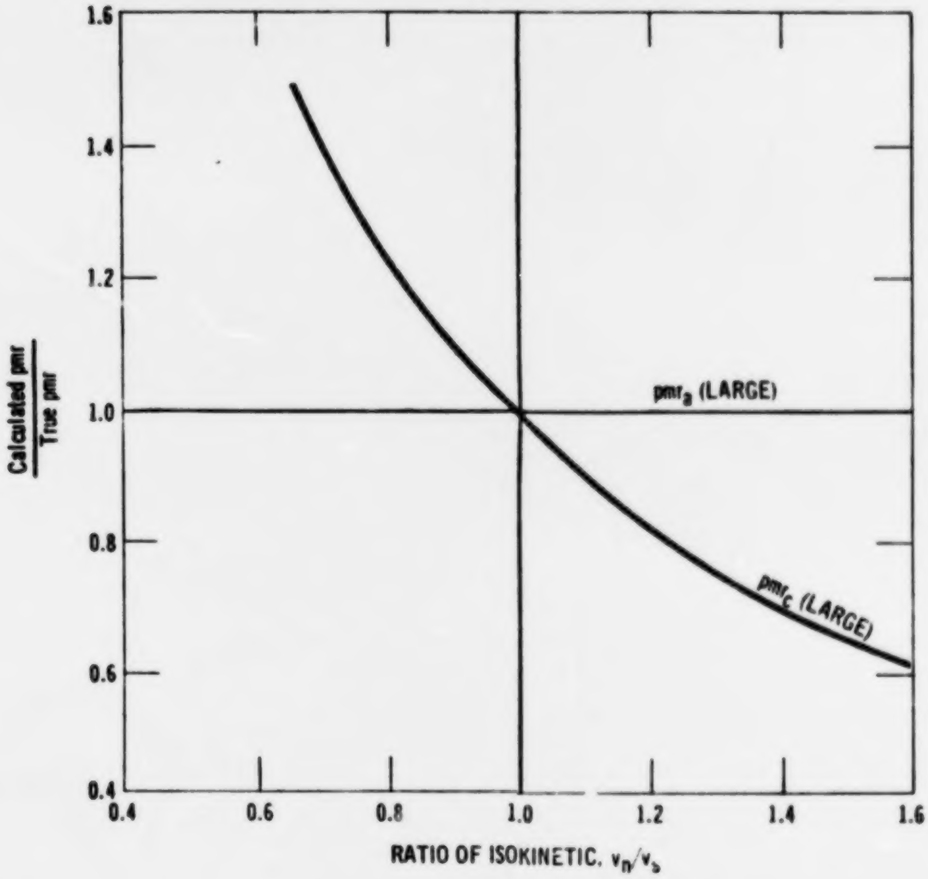

Figure 2. Errors due to anisokinetic conditions (large particles).

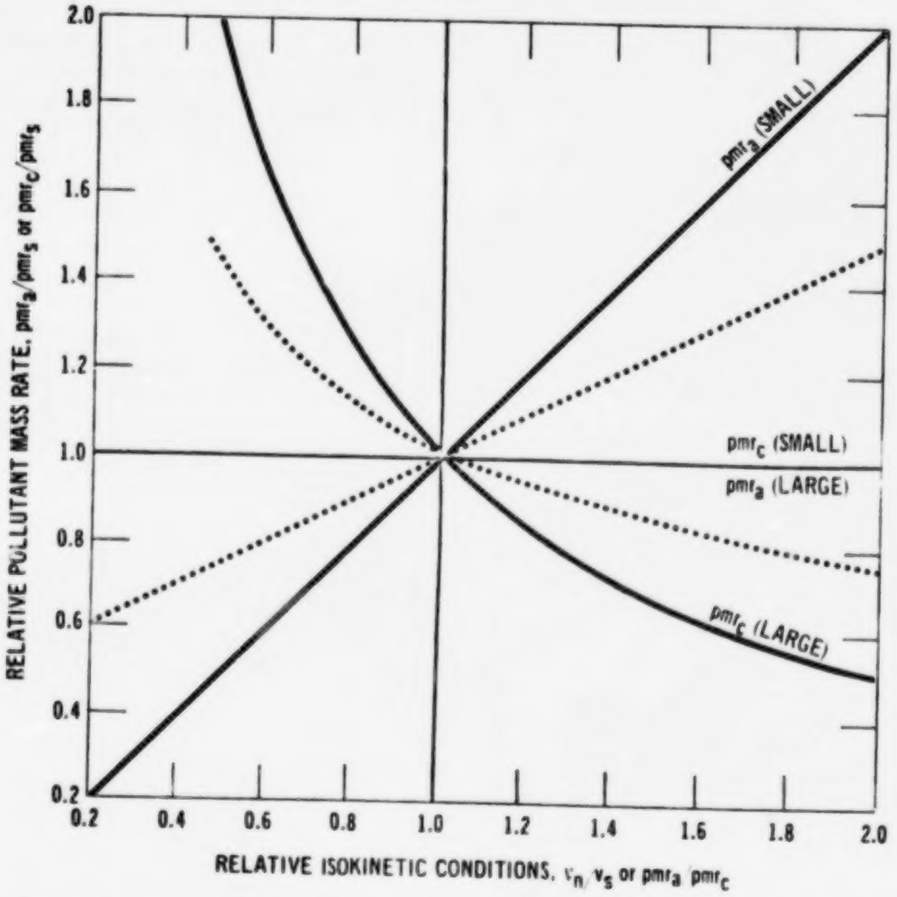

Figure 3. Errors due to anisokinetic conditions (50% small and 50% large particles).

Table III. Constant Proportional Conditions

Ratio, $\overline{pmr}_a$ / $\overline{pmr}_c$	Condition	Bias relative to true $\overline{pmr}_s$	
		$\overline{pmr}_a$	$\overline{pmr}_c$
1	Isokinetic	=	=
< 1	Underisokinetic	<	>
> 1	Overisokinetic	>	<

According to Figure 1, when only small particles exist (including gaseous pollutants), the sample-concentration method of calculation gives accurate results; according to Figure 2, when only large particles exist, the ratio-of-area calculation method gives the most accurate result under anisokinetic conditions. Figure 3 shows the maximum deviation from the true value [as marked by pmr_a (small) and pmr_c (large)] that could possibly occur if constant proportional conditions are maintained.

Unfortunately, the two extremes, all large particles or all small particles, do not often occur. A mixture of large and small particles is the more general case. The dotted line in Figure 3 shows the case where 50 per cent by weight are small and 50 per cent are large particles. A mixture of different size particles, then, only tends to decrease or shrink the outer boundaries. It is impossible to exceed the outer boundaries if exact, constant, proportional conditions are maintained.

Realizing this, it can be stated that the true $\overline{pmr}_s$ value lies somewhere between $\overline{pmr}_a$ and $\overline{pmr}_c$. It may be closer or even equal to one or the other, depending on the particle size distribution. Without this knowledge, the best that can be said is:

$$\widehat{\overline{pmr}}_s = \frac{\overline{pmr}_a + \overline{pmr}_c}{2} \pm \frac{\overline{pmr}_a - \overline{pmr}_c}{2} \qquad (16)$$

when $\widehat{\overline{pmr}}_s$ is the estimate of the true $\overline{pmr}_s$.

Under the practical situation, it is impossible to maintain isokinetic or proportional conditions without some degree of fluctuation. We need to understand how this would affect the sampling results.

Badzioch wrote an equation relating the pollutant mass collected to the actual pollutant mass in the stack as:

$$\frac{m_{ne}}{m_{se}} = (1 - \alpha)\frac{v_{ne}}{v_{se}} + \alpha$$

where α = parameter, depending on the inertia of the particle and the gas flow pattern at the sampling nozzle. Also, it was reported that α was a constant for $\frac{v_{ne}}{v_{se}}$ = 0.5 to 4. Watson[6] approximated the range as 0.5 to 2.

Thus for a given particle size distribution, when c_{se} = constant, then the average ($\overline{\alpha}$) is a constant, and:

$$\frac{m_{ne}}{m_{se}} = (1 - \overline{\alpha}) \frac{v_{ne}}{v_{se}} + \overline{\alpha}$$

which is a straight-line function. Further, if $\overline{v}_{ne} = \overline{v}_{se}$ or $\overline{v}_{ne} = k\ \overline{v}_{se}$, the ratio of m_n to m_s remains fixed but is biased depending on the value $\overline{v}_n/\overline{v}_s$.

Proposed Procedure

Facts and Assumptions

The bases may now be set for the interpretation procedure.

1. There is no knowledge of particle size distribution or how the pollutant concentration is varying with time.
2. The following data are provided:
   a. $\overline{v}_s$, m_{nt}, A_n, V_{nt}, and θ_t. V_{nt} must be obtained independently of $\overline{v}_s$.
   b. V_{ne}, θ_e, and $\overline{v}_{se}$ for each elemental area.
3. Results within ± 10 per cent of the true value are desired.
4. There is no deliberate attempt to bias the data.
5. Fluctuation within the stack of both velocity and pollutant concentration at any point are random.
6. Only averages can be calculated.

Procedure and Explanation

The following steps should ensure valid results within ± 10 per cent of the true value. The limit, ± 10 per cent, is purely arbitrary; an an understanding of this example should enable you to set your own desired limits.

With the principles set forth, a method of evaluating source sampling data can now be proposed.

1. Calculate $\overline{pmr}_a$ and $\overline{pmr}_c$, using independent measurements of V_{nt} and $\overline{v}_s$.

2. Calculate the ratio $\overline{pmr}_a$ / $\overline{pmr}_c$ and $\dfrac{pmr_a - pmr_c}{pmr_a + pmr_c}$

   a. If $1.2 < \overline{pmr}_a / \overline{pmr}_c < 0.82$ or $\dfrac{pmr_a - pmr_c}{pmr_a + pmr_c} > \pm 0.10$, reject the results.

   b. If $0.82 \leq \overline{pmr}_a / \overline{pmr}_c \leq 1.2$ or $\dfrac{pmr_a - pmr_c}{pmr_a + pmr_c} \leq \pm 0.10$, go to step 3.

3. Calculate $\dfrac{V_{ne}}{\overline{v}_{se}\, A_n\, \theta_e} = \dfrac{\overline{v}_{ne}}{\overline{v}_{se}}$

   V_{ne} is an integrated volume over the sampling period θ_e, whereas V_{se} is a result of the readers estimation of the average reading of the inclined manometer. The inclined manometer of the pitot tube does not give V_{se} directly but, instead, yields the velocity pressure (Δp_{se}). This reading, the Δp_{se}, must be within ± 10 per cent of the average value.[7] Therefore, if Δp_{se} varies more than this amount during θ_e, the rate must be adjusted, and the Δp_{se} and the time must be recorded so an average $\bar{v}_{se}$ can be calculated.

a. If any $1.2 < \frac{V_{ne}}{\bar{v}_{se} A_n \theta_e} < 0.82$, reject the data.

b. If all $0.82 \leq \frac{V_{ne}}{\bar{v}_{se} A_n \theta_e} \leq 1.20$, average $\overline{pmr}_a$ and $\overline{pmr}_c$.

This value will be within ± 10 per cent of the true $\overline{pmr}_s$.

SUMMARY

There are two approaches used to calculate the pollutant mass rate:

1. The ratio of area method in which the sample collected is weighted according to the ratio of the cross-sectional areas of the stack and the sample nozzle.
2. The concentration based method in which the sample collected is weighted according to the ratio of the volumetric flows in the stack and in the sample nozzle.

The source tester should be aware of how the two methods for calculating the pollutant mass rate can be biased by the particle size distribution of the pollutant when isokinetic conditions are not maintained. Although it is shown that the bias is predictable if either all large particles or all small particles are present, the real situation usually lies somewhere between these predictable limits.

A compromise between these two limits then is the best estimate of the true value when exact knowledge of the particle size distribution is lacking. The procedure recommended is to obtain the average value of the two methods, which is a model based upon the concept of Hemeon and Haines[2] and others[3,4,6] and can be applied to real sources.

The two methods for calculating pollutant mass rate do not take into account time and cross-sectional variations of the pollutant mass rate. However the ratio of the methods, $\overline{pmr}_a/\overline{pmr}_c$, can be used to determine the average percent of isokinetic or proportional conditions. With additional real time data, e.g. velocity and sample volume reading, a more detailed evaluation can be made. This shows the necessity of having a velocity measuring instrument during sampling and a volume meter in the sampling train.

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APPENDIX B

EXAMPLE CALCULATION OF CONCENTRATION AND MASS FLOW RATE
(Inlet and Outlet)

EXAMPLE CALCULATIONS OF
CONCENTRATION AND MASS FLOW RATE

(Inlet Stream)
Run No. SCA-81

1. CONSTANTS

(a)	Barometric Pressure (P_b)	29.16 in Hg
(b)	Stack Diameter (D_s)	6.07 in
(c)	Sampling Nozzle Diameter (D_n)	0.12 in
(d)	Stack Gas Pressure (P_s)	39.13 in Hg
(e)	Pitot Tube Coefficient (C_p)	0.99

2. OPERATIONAL DATA

(a)	Volume of Dry Gas Sampled, Meter Conditions (V_m)	86.983 ft^3
(b)	Net Time of Test (T_t)	120 min
(c)	Volume of Water Collected (V_w)	34.8 ml
(d)	Mercury Collected, Total (m_t)	23.01 mg
(e)	Average Gas Meter Temperature (T_m)	526 °R
(f)	Average Orifice Pressure Drop (P_m)	0.135 in H_2O
(g)	Average Stack Gas Temperature (T_s)	531 °R

3. DERIVED DATA

(a) Average Pressure at the Orifice

$$P_o = P_b + \frac{P_m}{13.6}$$

$$P_o = 29.16 \text{ in Hg} + \frac{0.135 \text{ in } H_2O}{13.6 \text{ in } H_2O/\text{in Hg}} = \quad 29.17 \text{ in Hg}$$

(b) Area of Stack

$$A_s = \frac{\pi D_s^2}{4 \times 144} = \frac{\pi (6.07 \text{ in})^2}{4 \times 144 \frac{\text{in}^2}{\text{ft}^2}} = \quad 0.201 \text{ ft}^2$$

(c) Area of Nozzle

$$A_n = \frac{\pi D_n^2}{4 \times 144} = \frac{\pi (0.12 \text{ in})^2}{4 \times 144 \frac{\text{in}^2}{\text{ft}^2}} = \quad 0.79 \times 10^{-4} \text{ ft}^2$$

4. GAS ANALYSIS

(a) Volume of Dry Gas Sampled, Standard Conditions

$$V_{mst} = V_m \left(\frac{T_{st}}{T_m}\right) \left(\frac{P_o}{P_{st}}\right)$$

where T_{st} is the temperature at standard conditions (530°R) and P_{st} is the pressure at standard conditions (29.92 in Hg).

$$V_{mst} = (86.983\ \text{ft}^3) \left(\frac{530°\text{R}}{526°\text{R}}\right) \left(\frac{29.17\ \text{in Hg}}{29.92\ \text{in Hg}}\right) = \qquad 85.4\ \text{ft}^3$$

(b) Volume of Water Vapor Collected, Standard Conditions

$$V_{wvst} = K_w V_w \frac{T_{st}}{P_{st}}$$

where $K_w = 0.00267$ in Hg - ft^3/ml - °R

$$= \left(0.00267\ \frac{\text{in Hg - ft}^3}{\text{ml - °R}}\right)\ (34.8\ \text{ml}) \left(\frac{530°\text{R}}{29.92\ \text{in Hg}}\right) = \qquad 1.65\ \text{ft}^3$$

(c) Total Volume of Gas Sampled, Standard Conditions

$$V_{total} = V_{mst} + V_{wvst}$$

$$V_{total} = 85.4\ \text{ft}^3 + 1.65\ \text{ft}^3 = \qquad 87.0\ \text{ft}^3$$

(d) Total Volume of Gas Sampled, Corrected to Stack Conditions

$$V_{ms} = \frac{T_s}{T_{st}} \quad \frac{P_{st}}{P_s} \quad V_{total}$$

$$V_{ms} = \left(\frac{530°\text{R}}{531°\text{R}}\right) \left(\frac{29.92\ \text{in Hg}}{39.13\ \text{in Hg}}\right) (87\ \text{ft}^3) = \qquad 66.4\ \text{ft}^3$$

(e) Percent Moisture in Stack Gas

$$\%\ M = \frac{V_{wvst}}{V_{mst} + V_{wvst}} \times 100\%$$

$$\%\ M = \frac{1.65\ \text{ft}^3}{85.4\ \text{ft}^3 + 1.65\ \text{ft}^3} \times 100\% = \qquad 1.89\ \%$$

(f) Percent Dry Gas in Stack Gas

$\% V_m = 100 - \% M$

$\% V_m = 100\% - 1.89\% =$ 98.11 %

(g) Molecular Weight of Dry Gas = Molecular Weight of H_2 = 2.0 lb/lb mole

(h) Molecular Weight of Stack Gas

$$MW = \frac{1}{100} (MW_d \% V_m + 18 \% M)$$

$$MW = \frac{1}{100\%} [(2.0 \text{ lb/lb mole})(98.11\%) + (18 \text{ lb/lb mole})(1.89\%)] =$$ 2.30 lb/lb mole

5. GAS FLOW ANALYSIS

(a) Average Stack Gas Velocity, Stack Conditions (from Method 102)

$$V_s = K_p C_p (\sqrt{\Delta p})_{avg} \sqrt{\frac{(T_s)_{avg}}{P_s MW}}$$

where V_s = Average stack gas velocity, ft/sec

$K_p = 85.53 \text{ ft/sec} \left(\frac{\text{lb - in Hg}}{\text{lb mole - °R - in } H_2O}\right)^{1/2}$

C_p = Pitot tube coefficient, dimensionless

$(\sqrt{(T_s)})_{avg}$ = Average square root of stack gas temp., $°R^{1/2}$

$(\sqrt{\Delta p})_{avg}$ = Average square root of velocity head of stack gas, in $H_2O^{1/2}$

P_s = Stack pressure, in Hg

MW = Molecular weight of stack gas

$$V_s = (85.53 \text{ ft/sec}) \left(\frac{\text{lb - in Hg}}{\text{lb mole - °R - in } H_2O}\right)^{1/2} (0.99) \times \frac{16.83 °R^{1/2} - \text{in } H_2O^{1/2}}{(39.13 \text{ in Hg} \times 2.30 \text{ lb/lb mole})^{1/2}} =$$ 150 fps

(b) Stack Gas Flow Rate, Stack Conditions

$$Q_a = 60\ V_s A_s$$

$$Q_a = (60\ \text{sec/min})(150\ \text{ft/sec})(0.201\ \text{ft}^2) = \qquad 1810\ \text{cfm}$$

(c) Stack Gas Flow Rate, Standard Conditions, dry

$$Q_{ds} = Q_a \left(\frac{T_{st}}{T_s}\right) \left(\frac{P_s}{P_{st}}\right) \left(\frac{\%V_m}{100}\right)$$

$$Q_{ds} = (1810\ \text{ft}^3/\text{min}) \left(\frac{530°\text{R}}{531°\text{R}}\right) \left(\frac{39.13\ \text{in Hg}}{29.92\ \text{in Hg}}\right) \left(\frac{98.11\%}{100\%}\right) = \qquad 2320\ \text{scfm}$$

(d) Average Stack Gas Velocity, Standard Conditions, dry

$$V_{sst} = \frac{Q_{ds}}{60\ A_s}$$

$$V_{sst} = \frac{2320\ \text{ft}^3/\text{min}}{60\ \text{sec/min} \times 0.201\ \text{ft}^2} = \qquad 192\ \text{fps}$$

6. CONCENTRATION OF MERCURY IN SAMPLE

(a) Total, Dry Gas, Standard Conditions

$$C_{ao} = 0.0154\ \frac{m_t}{V_{mst}}$$

$$C_{ao} = 0.0154\ \text{gr/mg} \times \frac{23.01\ \text{mg}}{85.4\ \text{scf}} = \qquad 0.00415\ \text{gr/scf}$$

7. PERCENT ISOKINETIC (From Method 102)

$$I = \frac{(T_s)\left[(0.00267)(V_w) + \frac{V_m}{T_m}\ (P_o)\right]}{60\ T_t V_s P_s A_n} \times 100\%$$

$$I = \frac{100 V_{ms}}{A_n T_t V_s}$$

$$I = \frac{(100\%)(66.4\ \text{ft}^3)}{(0.79 \times 10^{-4}\ \text{ft}^2)(120\ \text{min})(60\ \text{sec/min})(150\ \text{ft/sec})} = \qquad 78\%$$

8. EMISSION RATE

(a) Total

$$C_{ax} = 1.32 \times 10^{-4} \frac{m_t}{V_{mst}} Q_{ds}$$

$$C_{ax} = \left(1.32 \times 10^{-4} \frac{\text{min-lb}}{\text{hr-mg}}\right) \frac{(23.01 \text{ mg})(2320 \text{ ft}^3/\text{min})}{85.4 \text{ ft}^3} = \quad 0.083 \text{ lb/hr}$$

9. METRIC UNITS

$V_{mst} = 85.4 \text{ scf} \times 0.02832 \text{ Nm}^3/\text{scf} = 2.42 \text{ Nm}^3$

$C_{ao} = \dfrac{23.01 \text{ mg}}{2.42 \text{ Nm}^3} = 9.51 \text{ mg/Nm}^3$

$Q_{ds} = 2320 \text{ scfm} \times 0.02832 \text{ Nm}^3/\text{scf} = 65.7 \text{ Nm}^3/\text{min}$

$C_{ax} = 9.51 \text{ mg/Nm}^3 \times 65.7 \text{ Nm}^3/\text{min} \times 60 \text{ min/hr} = 37{,}500 \text{ mg/hr}$

EXAMPLE CALCULATIONS OF
CONCENTRATION AND MASS FLOW RATE

(Outlet Stream)
Run No. SCA-82

1. CONCENTRATION OF MERCURY IN SAMPLE

(a) Total, Dry Gas, Standard Conditions

$$C = \frac{W_{Hg}}{(V_m)\left(\frac{T_{std}}{T_m}\right)\left(\frac{P_m}{P_{std}}\right)(0.02832)}$$

where: C = Concentration of Hg, mg Hg/Nm^3 at dry standard conditions

W_{Hg} = Total weight of Hg collected by sample train less weight of Hg collected in blank, mg

V_m = Total volume of gas sampled at meter conditions, ft^3

T_{std} = Absolute temperature at standard conditions = 530°R

T_m = Average temperature of dry gas meter, °R

P_m = Average pressure of dry gas meter, in. Hg

$= P_{bar} + \frac{\Delta H}{13.6}$

where: P_{bar} = Barometric pressure, in. Hg

ΔH = Average orifice meter pressure differential, in. H_2O

13.6 = Specific gravity of Hg

P_{std} = Pressure at standard conditions = 29.92 in. Hg

0.02832 = Conversion factor from ft^3 to m^3

Using field data from Run No. SCA-82 (Cycle No. 5, 8th run)

$$C = \frac{11.32\ \text{mg Hg}}{(114.985\ \text{ft}^3)\left(\frac{530°\text{R}}{525°\text{R}}\right)\left[\frac{29.16\ \text{in Hg} + \frac{0.22\ \text{in H}_2\text{O}}{13.6\ \text{in H}_2\text{O/in Hg}}}{29.92\ \text{in Hg}}\right](0.02832\ \text{m}^3/\text{ft}^3)}$$

C = 3.53 mg Hg/Nm^3 at dry standard conditions

2. EMISSION RATE

Using field data from Run No. SCA-82 (Cycle No. 5, 8th run)

(a) $Q_r = (0.02832)(1.33)(Q_m)$

where: Q_r = Regeneration gas flow rate, Nm^3/min
Q_m = Regeneration gas flow reading from orifice meter, scfm
1.33 = Manometer correction factor
0.02832 = Conversion factor from ft^3 to m^3

$Q_r = (0.02832\ m^3/ft^3)(1.33)(250\ ft^3/min) = 9.42\ Nm^3/min$

(b) $Q_o = Q_{ds} - Q_r$

where: Q_o = "Outlet" gas flow rate, dry Nm^3/min
Q_{ds} = Total inlet gas flow rate, dry Nm^3/min (from inlet calculations)
Q_r = Regeneration gas flow rate, dry Nm^3/min

$Q_o = 65.7\ Nm^3/min - 9.42\ Nm^3/min = 56.3\ Nm^3/min$

(c) $E = (60)(C)(Q_o)$

where: E = Maximum emission rate from adsorber, mg/hr
C = Concentration of mercury in outlet stream, mg Hg/m^3
Q_o = "Outlet" gas flow rate, dry Nm^3/min
60 = Conversion factor from minutes to hours

$E = (60\ min/hr)(3.53\ mg\ Hg/Nm^3)(56.3\ Nm^3/min) = 12,000\ mg\ Hg/hr$

EXAMPLE CALCULATION
OF
PERCENT RECYCLE GAS

From data provided by plant personnel:

10,686 scf H_2 produced at production rate of 8 tons Cl_2/hr

By-product H_2 rate from cell house =

Q_b = 10,686 scf/ton Cl_2 x 8 ton Cl_2/hr x 1 hr/60 min

Q_b = 1,430 scf/min

Average total inlet H_2 rate to adsorber during test program - 2,440 scf/min

Average regneration H_2 rate during test program = 320 scf/min

∴ Average recycle H_2 rate = 2,440 - 1,430 - 320 = 690 scf/min

On a basis of the total H_2 feed to the adsorber,

$$\% \text{ Recycle} = \frac{690 \text{ scfm}}{2,440 \text{ scfm}} \times 100\% = 28\%$$

$$\% \text{ Regeneration} = \frac{320 \text{ scfm}}{2,440 \text{ scfm}} \times 100\% = 13\%$$

by difference, % Combustion/Vent = 100 - 28 - 13 = 59%

i.e., of the total H_2 fed to the adsorber, only 59% of the total Hg emitted from the adsorber is actually emitted from the plant via either boiler combustion or vent to atmosphere.

APPENDIX C

CALCULATION OF LOWEST Hg SATURATION CONDITIONS

CALCULATION OF LOWEST Hg SATURATION CONDITIONS

Lowest Inlet Temperature = 21°C

Highest Inlet Pressure = P = 5 psig = 19.7 psia

Hg vapor pressure at 21°C = p = 0.001314 mm Hg

$$\frac{p}{P} = \frac{0.001314 \text{ mm Hg}}{(760 \text{ mm Hg}) \left(\frac{19.7 \text{ psi}}{14.7 \text{ psi}}\right)} = 1.29 \times 10^{-6}$$

Assuming ideal gas law conditions, $\frac{p}{P} = 1.29 \times 10^{-6}$ ft^3 Hg/ft^3 gas

Molar Volume at 5 psig, 21°C = $\overline{V}$

$$\overline{V} = \frac{\left(0.73 \ \frac{\text{atm} - \text{ft}^3}{\text{lb mole} - {}^\circ\text{R}}\right) (530^\circ\text{R})}{\left(\frac{19.7 \text{ psi}}{14.7 \text{ psi/atm}}\right)} = 288.7 \text{ ft}^3/\text{lb mole}$$

$$\frac{p}{P} = 1.29 \times 10^{-6} \text{ ft}^3 \text{ Hg/ft}^3 \text{ gas} \times \frac{1 \text{ lb mole Hg}}{288.7 \text{ ft}^3 \text{ Hg}} \times \frac{200.6 \text{ lb Hg}}{\text{lb mole Hg}} \times 0.4536 \times 10^6 \text{ mg/lb}$$

$$\times \frac{1 \text{ ft}^3}{0.02832 \text{ m}^3} = 14.4 \text{ mg Hg/m}^3$$

Correcting this actual stack concentration to an equivalent concentration at standard conditions (14.7 psi, 70°F)

$$(14.4 \text{ mg Hg/m}^3) \left(\frac{14.7 \text{ psi}}{19.7 \text{ psi}}\right) = 10.7 \text{ mg Hg/Nm}^3$$

This concentration, when corrected for the 2% moisture content, corresponds to an equivalent concentration at dry standard conditions equal to

$$\frac{10.7 \text{ mg Hg/Nm}^3}{(1.0-0.02)} = 10.9 \text{ mg Hg/Nm}^3$$

APPENDIX D

EXAMPLE CALCULATION OF GRAPHICAL INTEGRATION

EXAMPLE CALCULATION OF GRAPHICAL INTEGRATION

Test Cycle No. 5

Data:

Hour of Adsorption Cycle	Hg Flow Rate from Adsorber, mg/hr
0 - 2	1,120
3 - 5	7
6 - 8	7
9 - 11	4
12 - 14	4
15 - 17	3
18 - 20	310
21 - 24	12,000

Using the assumption of linear interpolation, the value used for Hg flow rate during an interval between test runs is the average of the run preceding that interval and the run immediately after that interval.

Total Hg from outlet during Cycle 5 = E_5, g

$$E_5 = (1.12\ g/hr)(2\ hr) + (0.56)(1\ hr) + (0.007\ g/hr)(2\ hr)$$

$$+ (0.007\ g/hr)(1\ hr) + (0.007\ g/hr)(2\ hr) + (0.0055\ g/hr)(1\ hr)$$

$$+ (0.004\ g/hr)(2\ hr) + (0.004\ g/hr)(1\ hr) + (0.004\ g/hr)(2\ hr)$$

$$+ (0.0035\ g/hr)(1\ hr) + (0.003\ g/hr)(2\ hr) + (0.156\ g/hr)(1\ hr)$$

$$+ (0.31\ g/hr)(2\ hr) + (6.16\ g/hr)(\ 2\ hr) + (12.0\ g/hr)(2\ hr)$$

$$E_5 = 40\ g$$

APPENDIX E

MERCURY EMISSION DATA REPORTS
(Inlet)

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                    MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 13:45 SCA- 1


    BAROMETRIC PRESSURE (IN. HG)                              30.02
    AVG. ORIFICE PRES. DROP (IN. H2O)                          0.135
    VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                88.710
    AVG. METER TEMP. (F)                                      72.
    VOLUME OF DRY GAS SAMPLED (SCF)                           88.701

    TOTAL H2O COLLECTED (ML)                                  31.2
    VOLUME OF H2O COLLECTED (SCF)                              1.48
    % MOISTURE IN STACK GAS BY VOLUME                          1.64
    MOLE FRACTION OF DRY GAS                                   0.984

    MOLECULAR WEIGHT OF DRY GAS                                2.00
    MOLECULAR WEIGHT OF STACK GAS                              2.26

    AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            160.2
    AVERAGE STACK GAS TEMPERATURE (F)                         72.
    ABSOLUTE STACK GAS PRESSURE (IN. HG)                      39.18
    STACK GAS FLOW RATE (ACFM)                              1931.
    STACK GAS FLOW RATE (SCFM)                              2478.

    NET TIME OF TEST (MIN.)                                  120.
    STACK DIAMETER (IN.)                                       6.1
    SAMPLING NOZZEL DIAMETER (IN.)                             0.120
    % ISOKINETIC                                              76.4

    MERCURY MASS TOTAL (MG)                                   22.4

    MERC. CONC.-TOTAL (GR/SCF)                                 0.004
    MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.005

    EMISSION RATE-TOTAL- (LB/DAY)                              1.978


          STANDARD CONDITIONS  =70 DEG F  =29.92 IN. HG

                    ENGINEERING SCIENCE INC.
                      WASHINGTON, D.C.
                          11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SORIN  BANGOR,MAINE 9/24/74 13:45 SCA- 1


    BAROMETRIC PRESSURE (MM HG)                              763.
    AVG. ORIFICE PRES. DROP (MM H2O)                           3.43
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                 2.512
    AVG. METER TEMP. (C)                                      22.2
    VOLUME OF DRY GAS SAMPLED (NM3)                            2.512

    TOTAL H2O COLLECTED (ML)                                  31.2
    VOLUME OF H2O COLLECTED (NM3)                              0.042
    % MOISTURE IN STACK GAS BY VOLUME                          1.64
    MOLE FRACTION OF DRY GAS                                   0.984

    MOLECULAR WEIGHT OF DRY GAS                                2.00
    MOLECULAR WEIGHT OF STACK GAS                              2.26

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)             48.82
    AVERAGE STACK GAS TEMPERATURE (C)                         22.2
    ABSOLUTE STACK GAS PRESSURE (MM HG)                      995.
    STACK GAS FLOW RATE (M3/M)                                54.69
    STACK GAS FLOW RATE (NM3/M)                               70.16

    NET TIME OF TEST (MIN.)                                  120.
    STACK DIAMETER (M)                                         0.154
    SAMPLING NOZZEL DIAMETER (CM)                              0.305
    % ISOKINETIC                                              76.4

    MERCURY MASS TOTAL (MG)                                   22.4

    MERC. CONC.-TOTAL (MG/NM3)                                 8.884
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                   11.399

    EMISSION RATE-TOTAL- (G/DAY)                             897.42


        STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG

                  ENGINEERING SCIENCE INC.
                     WASHINGTON, D.C.
                         11/14/74
                    MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 17:08 SCA- 3

        BAROMETRIC PRESSURE (IN. HG)                          29.98
        AVG. ORIFICE PRES. DROP (IN. H2O)                      0.135
        VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            84.015
        AVG. METER TEMP. (F)                                  49.
        VOLUME OF DRY GAS SAMPLED (SCF)                       87.686

        TOTAL H2O COLLECTED (ML)                              30.5
        VOLUME OF H2O COLLECTED (SCF)                          1.45
        % MOISTURE IN STACK GAS BY VOLUME                      1.62
        MOLE FRACTION OF DRY GAS                               0.984

        MOLECULAR WEIGHT OF DRY GAS                            2.00
        MOLECULAR WEIGHT OF STACK GAS                          2.26

        AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)        159.0
        AVERAGE STACK GAS TEMPERATURE (F)                     72.
        ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.14
        STACK GAS FLOW RATE (ACFM)                          1918.
        STACK GAS FLOW RATE (SCFM)                          2458.

        NET TIME OF TEST (MIN.)                              120.
        STACK DIAMETER (IN.)                                   6.1
        SAMPLING NOZZEL DIAMETER (IN.)                         0.120
        % ISOKINETIC                                          76.1

        MERCURY MASS TOTAL (MG)                               19.9

        MERC. CONC.-TOTAL (GR/SCF)                             0.003
        MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.004

        EMISSION RATE-TOTAL- (LB/DAY)                          1.763


            STANDARD CONDITIONS  =70 DEG F  *29.92 IN. HG

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                            11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 17:08 SCA- 3


      BAROMETRIC PRESSURE (MM HG)                         761.
      AVG. ORIFICE PRES. DROP (MM H2O)                      3.43
      VOLUME OF DRY GAS SAMPLED, METER COND.(M3)            2.379
      AVG. METER TEMP. (C)                                  9.4
      VOLUME OF DRY GAS SAMPLED (NM3)                       2.483

      TOTAL H2O COLLECTED (ML)                             30.5
      VOLUME OF H2O COLLECTED (NM3)                         0.041
      % MOISTURE IN STACK GAS BY VOLUME                     1.62
      MOLE FRACTION OF DRY GAS                              0.984

      MOLECULAR WEIGHT OF DRY GAS                           2.00
      MOLECULAR WEIGHT OF STACK GAS                         2.26

      AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        48.47
      AVERAGE STACK GAS TEMPERATURE (C)                    22.2
      ABSOLUTE STACK GAS PRESSURE (MM HG)                 994.
      STACK GAS FLOW RATE (M3/M)                           54.30
      STACK GAS FLOW RATE (NM3/M)                          69.61

      NET TIME OF TEST (MIN.)                             120.
      STACK DIAMETER (M)                                    0.154
      SAMPLING NOZZEL DIAMETER (CM)                         0.305
      % ISOKINETIC                                         76.1

      MERCURY MASS TOTAL (MG)                              19.9

      MERC. CONC.-TOTAL (MG/NM3)                            7.978
      MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              10.228

      EMISSION RATE-TOTAL- (G/DAY)                        799.52


          STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG

                     ENGINEERING SCIENCE INC.
                       WASHINGTON, D.C.
                           11/14/74
                    MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 20:16 SCA- 5


   BAROMETRIC PRESSURE (IN. HG)                             29.98
   AVG. ORIFICE PRES. DROP (IN. H2O)                         0.142
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)               85.898
   AVG. METER TEMP. (F)                                     38.
   VOLUME OF DRY GAS SAMPLED (SCF)                          91.633

   TOTAL H2O COLLECTED (ML)                                 30.5
   VOLUME OF H2O COLLECTED (SCF)                             1.45
   % MOISTURE IN STACK GAS BY VOLUME                         1.55
   MOLE FRACTION OF DRY GAS                                  0.984

   MOLECULAR WEIGHT OF DRY GAS                               2.00
   MOLECULAR WEIGHT OF STACK GAS                             2.25

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  162.2
   AVERAGE STACK GAS TEMPERATURE (F)                        72.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                     39.14
   STACK GAS FLOW RATE (ACFM)                             1956.
   STACK GAS FLOW RATE (SCFM)                             2509.

   NET TIME OF TEST (MIN.)                                 120.
   STACK DIAMETER (IN.)                                      6.1
   SAMPLING NOZZEL DIAMETER (IN.)                            0.120
   % ISOKINETIC                                             77.9

   MERCURY MASS TOTAL (MG)                                  20.2

   MERC. CONC.-TOTAL (GR/SCF)                                0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                   0.004

   EMISSION RATE-TOTAL- (LB/DAY)                             1.755


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                  MERCURY EMISSION DATA REPORT
                         METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 20:16 SCA- 5


  BAROMETRIC PRESSURE (MM HG)                          761.
  AVG. ORIFICE PRES. DROP (MM H2O)                       3.61
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.432
  AVG. METER TEMP. (C)                                   3.3
  VOLUME OF DRY GAS SAMPLED (NM3)                        2.595

  TOTAL H2O COLLECTED (ML)                              30.5
  VOLUME OF H2O COLLECTED (NM3)                          0.041
  % MOISTURE IN STACK GAS BY VOLUME                      1.55
  MOLE FRACTION OF DRY GAS                               0.984

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.25

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         49.45
  AVERAGE STACK GAS TEMPERATURE (C)                     22.2
  ABSOLUTE STACK GAS PRESSURE (MM HG)                  994.
  STACK GAS FLOW RATE (M3/M)                            55.39
  STACK GAS FLOW RATE (NM3/M)                           71.05

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (M)                                     0.154
  SAMPLING NOZZEL DIAMETER (CM)                          0.305
  % ISOKINETIC                                          77.9

  MERCURY MASS TOTAL (MG)                               20.2

  MERC. CONC.-TOTAL (MG/NM3)                             7.780
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                9.982

  EMISSION RATE-TOTAL- (G/DAY)                         795.94


          STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG

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                    MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 23:31 SCA- 7

  BAROMETRIC PRESSURE (IN. HG)                          29.94
  AVG. ORIFICE PRES. DROP (IN. H2O)                      0.146
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            88.741
  AVG. METER TEMP. (F)                                  35.
  VOLUME OF DRY GAS SAMPLED (SCF)                       95.113

  TOTAL H2O COLLECTED (ML)                              27.9
  VOLUME OF H2O COLLECTED (SCF)                          1.32
  % MOISTURE IN STACK GAS BY VOLUME                      1.37
  MOLE FRACTION OF DRY GAS                               0.986

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.22

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)        165.1
  AVERAGE STACK GAS TEMPERATURE (F)                     72.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.18
  STACK GAS FLOW RATE (ACFM)                          1990.
  STACK GAS FLOW RATE (SCFM)                          2561.

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (IN.)                                   6.1
  SAMPLING NOZZEL DIAMETER (IN.)                         0.120
  % ISOKINETIC                                          79.3

  MERCURY MASS TOTAL (MG)                               19.6

  MERC. CONC.-TOTAL (GR/SCF)                             0.005
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.005

  EMISSION RATE-TOTAL- (LB/DAY)                          1.69

         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/24/74 23:31 SCA- 7


    BAROMETRIC PRESSURE (MM HG)                          760.
    AVG. ORIFICE PRES. DROP (MM H2O)                       3.71
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.513
    AVG. METER TEMP. (C)                                   1.7
    VOLUME OF DRY GAS SAMPLED (NM3)                        2.693

    TOTAL H2O COLLECTED (ML)                              27.9
    VOLUME OF H2O COLLECTED (NM3)                          0.037
    % MOISTURE IN STACK GAS BY VOLUME                      1.37
    MOLE FRACTION OF DRY GAS                               0.986

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.22

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         50.32
    AVERAGE STACK GAS TEMPERATURE (C)                     22.2
    ABSOLUTE STACK GAS PRESSURE (MM HG)                  995.
    STACK GAS FLOW RATE (M3/M)                            56.36
    STACK GAS FLOW RATE (NM3/M)                           72.51

    NET TIME OF TEST (MIN.)                              120.
    STACK DIAMETER (M)                                     0.154
    SAMPLING NOZZEL DIAMETER (CM)                          0.305
    % ISOKINETIC                                          79.3

    MERCURY MASS TOTAL (MG)                               19.75

    MERC. CONC.-TOTAL (MG/NM3)                             7.260
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                9.505

    EMISSION RATE-TOTAL- (G/DAY)                         758.13


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 02:43 SCA- 9


   BAROMETRIC PRESSURE (IN. HG)                         29.90
   AVG. ORIFICE PRES. DROP (IN. H2O)                     0.143
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)           86.981
   AVG. METER TEMP. (F)                                 34.
   VOLUME OF DRY GAS SAMPLED (SCF)                      93.290

   TOTAL H2O COLLECTED (ML)                             30.6
   VOLUME OF H2O COLLECTED (SCF)                         1.45
   % MOISTURE IN STACK GAS BY VOLUME                     1.53
   MOLE FRACTION OF DRY GAS                              0.985

   MOLECULAR WEIGHT OF DRY GAS                           2.00
   MOLECULAR WEIGHT OF STACK GAS                         2.24

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)       162.4
   AVERAGE STACK GAS TEMPERATURE (F)                    72.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                 39.06
   STACK GAS FLOW RATE (ACFM)                         1958.
   STACK GAS FLOW RATE (SCFM)                         2508.

   NET TIME OF TEST (MIN.)                             120.
   STACK DIAMETER (IN.)                                  6.1
   SAMPLING NOZZEL DIAMETER (IN.)                        0.120
   % ISOKINETIC                                         79.4

   MERCURY MASS TOTAL (MG)                              19.75

   MERC. CONC.-TOTAL (GR/SCF)                            0.005
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)               0.005

   EMISSION RATE-TOTAL- (LB/DAY)                         1.70


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 02:43 SC4- 9


    BAROMETRIC PRESSURE (MM HG)                        759.
    AVG. ORIFICE PRES. DROP (MM H2O)                     3.63
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)           2.463
    AVG. METER TEMP. (C)                                 1.1
    VOLUME OF DRY GAS SAMPLED (NM3)                      2.642

    TOTAL H2O COLLECTED (ML)                            30.6
    VOLUME OF H2O COLLECTED (NM3)                        0.041
    % MOISTURE IN STACK GAS BY VOLUME                    1.53
    MOLE FRACTION OF DRY GAS                             0.985

    MOLECULAR WEIGHT OF DRY GAS                          2.00
    MOLECULAR WEIGHT OF STACK GAS                        2.24

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)       49.50
    AVERAGE STACK GAS TEMPERATURE (C)                   22.2
    ABSOLUTE STACK GAS PRESSURE (MM HG)                992.
    STACK GAS FLOW RATE (M3/M)                          55.45
    STACK GAS FLOW RATE (NM3/M)                         71.00

    NET TIME OF TEST (MIN.)                            120.
    STACK DIAMETER (M)                                   0.154
    SAMPLING NOZZEL DIAMETER (CM)                        0.305
    % ISOKINETIC                                        79.4

    MERCURY MASS TOTAL (MG)                             19.75

    MERC. CONC.-TOTAL (MG/NM3)                           7.459
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              9.749

    EMISSION RATE-TOTAL- (G/DAY)                       762.71


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 05:35 SCA-11


  BAROMETRIC PRESSURE (MM HG)                        759.
  AVG. ORIFICE PRES. DROP (MM H20)                     3.63
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)           2.446
  AVG. METER TEMP. (C)                                 1.1
  VOLUME OF DRY GAS SAMPLED (NM3)                      2.523

  TOTAL H20 COLLECTED (ML)                            30.5
  VOLUME OF H20 COLLECTED (NM3)                        0.041
  % MOISTURE IN STACK GAS BY VOLUME                    1.54
  MOLE FRACTION OF DRY GAS                             0.985

  MOLECULAR WEIGHT OF DRY GAS                          2.00
  MOLECULAR WEIGHT OF STACK GAS                        2.25

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)       40.42
  AVERAGE STACK GAS TEMPERATURE (C)                   22.0
  ABSOLUTE STACK GAS PRESSURE (MM HG)                [illegible].
  STACK GAS FLOW RATE (M3/M)                          55.36
  STACK GAS FLOW RATE (NM3/M)                         70.80

  NET TIME OF TEST (MIN.)                            120.
  STACK DIAMETER (M)                                   0.154
  SAMPLING NOZZEL DIAMETER (CM)                        0.305
  % ISOKINETIC                                        70.0

  MERCURY MASS TOTAL (MG)                             25.0

  MERC. CONC.-TOTAL (MG/NM3)                           9.500
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)             12.165

  EMISSION RATE-TOTAL- (G/DAY)                       959.54


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                     MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 05:36 SCA-11


     BAROMETRIC PRESSURE (IN. HG)                        29.90
     AVG. ORIFICE PRES. DROP (IN. H2O)                    0.143
     VOLUME OF DRY GAS SAMPLED, METER COND.(CF)          86.356
     AVG. METER TEMP. (F)                                34.
     VOLUME OF DRY GAS SAMPLED (SCF)                     92.630

     TOTAL H2O COLLECTED (ML)                            30.5
     VOLUME OF H2O COLLECTED (SCF)                        1.45
     % MOISTURE IN STACK GAS BY VOLUME                    1.54
     MOLE FRACTION OF DRY GAS                             0.985

     MOLECULAR WEIGHT OF DRY GAS                          2.00
     MOLECULAR WEIGHT OF STACK GAS                        2.25

     AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  152.1
     AVERAGE STACK GAS TEMPERATURE (F)               72.
     ABSOLUTE STACK GAS PRESSURE (IN. HG)            30.06
     STACK GAS FLOW RATE (ACFM)                    1955.
     STACK GAS FLOW RATE (SCFM)                    2503.

     NET TIME OF TEST (MIN.)                        120.
     STACK DIAMETER (IN.)                             6.1
     SAMPLING NOZZEL DIAMETER (IN.)                   0.120
     % ISOKINETIC                                    70.0

     MERCURY MASS TOTAL (MG)                         25.0

     MERC. CONC.-TOTAL (GR/SCF)                       0.004
     MERC. CONC.-TOTAL @ STACK COND. (GR/CF)          0.005

     EMISSION RATE-TOTAL- (LB/DAY)                    2.137


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 08:40 SCA-13


  BAROMETRIC PRESSURE (IN. HG)                       29.85
  AVG. ORIFICE PRES. DROP (IN. H2O)                   0.138
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)         84.203
  AVG. METER TEMP. (F)                               50.
  VOLUME OF DRY GAS SAMPLED (SCF)                    87.330

  TOTAL H2O COLLECTED (ML)                           27.9
  VOLUME OF H2O COLLECTED (SCF)                       1.32
  % MOISTURE IN STACK GAS BY VOLUME                   1.49
  MOLE FRACTION OF DRY GAS                            0.985

  MOLECULAR WEIGHT OF DRY GAS                         2.00
  MOLECULAR WEIGHT OF STACK GAS                       2.24

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  160.0
  AVERAGE STACK GAS TEMPERATURE (F)                  71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)               38.81
  STACK GAS FLOW RATE (ACFM)                       1929.
  STACK GAS FLOW RATE (SCFM)                       2460.

  NET TIME OF TEST (MIN.)                           120.
  STACK DIAMETER (IN.)                                6.1
  SAMPLING NOZZEL DIAMETER (IN.)                      0.120
  % ISOKINETIC                                       75.7

  MERCURY MASS TOTAL (MG)                            25.0

  MERC. CONC.-TOTAL (GR/SCF)                          0.004
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)             0.006

  EMISSION RATE-TOTAL- (LB/DAY)                       2.228


     STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG


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              MERCURY EMISSION DATA REPORT
                     METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 08:40 SCA-13


  BAROMETRIC PRESSURE (MM HG)                         758.
  AVG. ORIFICE PRES. DROP (MM H2O)                      3.51
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)            2.384
  AVG. METER TEMP. (C)                                 10.0
  VOLUME OF DRY GAS SAMPLED (NM3)                       2.473

  TOTAL H2O COLLECTED (ML)                             27.9
  VOLUME OF H2O COLLECTED (NM3)                         0.037
  % MOISTURE IN STACK GAS BY VOLUME                     1.49
  MOLE FRACTION OF DRY GAS                              0.985

  MOLECULAR WEIGHT OF DRY GAS                           2.00
  MOLECULAR WEIGHT OF STACK GAS                         2.24

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        48.77
  AVERAGE STACK GAS TEMPERATURE (C)                    21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                 986.
  STACK GAS FLOW RATE (M3/M)                           54.63
  STACK GAS FLOW RATE (NM3/M)                          69.67

  NET TIME OF TEST (MIN.)                             120.
  STACK DIAMETER (M)                                    0.154
  SAMPLING NOZZEL DIAMETER (CM)                         0.305
  % ISOKINETIC                                         75.7

  MERCURY MASS TOTAL (MG)                              25.0

  MERC. CONC.-TOTAL (MG/NM3)                           10.076
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              12.851

  EMISSION RATE-TOTAL- (G/DAY)                       1010.70


      STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 11:43 SCA-15


       BAROMETRIC PRESSURE (IN. HG)                           29.85
       AVG. ORIFICE PRES. DROP (IN. H2O)                       0.140
       VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             88.377
       AVG. METER TEMP. (F)                                   57.
       VOLUME OF DRY GAS SAMPLED (SCF)                        90.418

       TOTAL H2O COLLECTED (ML)                               33.4
       VOLUME OF H2O COLLECTED (SCF)                           1.58
       % MOISTURE IN STACK GAS BY VOLUME                       1.72
       MOLE FRACTION OF DRY GAS                                0.983

       MOLECULAR WEIGHT OF DRY GAS                             2.00
       MOLECULAR WEIGHT OF STACK GAS                           2.28

       AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  158.4
       AVERAGE STACK GAS TEMPERATURE (F)                      71.
       ABSOLUTE STACK GAS PRESSURE (IN. HG)                   38.81
       STACK GAS FLOW RATE (ACFM)                           1910.
       STACK GAS FLOW RATE (SCFM)                           2429.

       NET TIME OF TEST (MIN.)                               120.
       STACK DIAMETER (IN.)                                    6.1
       SAMPLING NOZZEL DIAMETER (IN.)                          0.120
       % ISOKINETIC                                           79.4

       MERCURY MASS TOTAL (MG)                                20.4

       MERC. CONC.-TOTAL (GR/SCF)                              0.003
       MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                 0.004

       EMISSION RATE-TOTAL- (LB/DAY)                           1.734


           STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 11:43 SCA-15


  BAROMETRIC PRESSURE (MM HG)                            758.
  AVG. ORIFICE PRES. DROP (MM H2O)                         3.56
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.502
  AVG. METER TEMP. (C)                                    13.9
  VOLUME OF DRY GAS SAMPLED (NM3)                          2.560

  TOTAL H2O COLLECTED (ML)                                33.4
  VOLUME OF H2O COLLECTED (NM3)                            0.045
  % MOISTURE IN STACK GAS BY VOLUME                        1.72
  MOLE FRACTION OF DRY GAS                                 0.983

  MOLECULAR WEIGHT OF DRY GAS                              2.00
  MOLECULAR WEIGHT OF STACK GAS                            2.28

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           48.27
  AVERAGE STACK GAS TEMPERATURE (C)                       21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                    986.
  STACK GAS FLOW RATE (M3/M)                              54.07
  STACK GAS FLOW RATE (NM3/M)                             68.79

  NET TIME OF TEST (MIN.)                                120.
  STACK DIAMETER (M)                                       0.154
  SAMPLING NOZZEL DIAMETER (CM)                            0.305
  % ISOKINETIC                                            79.4

  MERCURY MASS TOTAL (MG)                                 20.4

  MERC. CONC.-TOTAL (MG/NM3)                               7.939
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 10.102

  EMISSION RATE-TOTAL- (G/DAY)                           786.35


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                 MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 15:00 SCA-17

   BAROMETRIC PRESSURE (IN. HG)                       29.62
   AVG. ORIFICE PRES. DROP (IN. H2O)                   0.136
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)         86.913
   AVG. METER TEMP. (F)                               58.
   VOLUME OF DRY GAS SAMPLED (SCF)                    88.064

   TOTAL H2O COLLECTED (ML)                           32.9
   VOLUME OF H2O COLLECTED (SCF)                       1.56
   % MOISTURE IN STACK GAS BY VOLUME                   1.74
   MOLE FRACTION OF DRY GAS                            0.983

   MOLECULAR WEIGHT OF DRY GAS                         2.00
   MOLECULAR WEIGHT OF STACK GAS                       2.28

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)     156.4
   AVERAGE STACK GAS TEMPERATURE (F)                  71.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)               38.58
   STACK GAS FLOW RATE (ACFM)                       1885.
   STACK GAS FLOW RATE (SCFM)                       2384.

   NET TIME OF TEST (MIN.)                           120.
   STACK DIAMETER (IN.)                                6.1
   SAMPLING NOZZEL DIAMETER (IN.)                      0.120
   % ISOKINETIC                                       78.8

   MERCURY MASS TOTAL (MG)                            20.0

   MERC. CONC.-TOTAL (GR/SCF)                          0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)             0.004

   EMISSION RATE-TOTAL- (LB/DAY)                       1.715


       STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 15:00 SCA-17


     BAROMETRIC PRESSURE (MM HG)                             752.
     AVG. ORIFICE PRES. DROP (MM H2O)                          3.45
     VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.461
     AVG. METER TEMP. (C)                                    14.4
     VOLUME OF DRY GAS SAMPLED (NM3)                          2.494

     TOTAL H2O COLLECTED (ML)                                32.9
     VOLUME OF H2O COLLECTED (NM3)                            0.044
     % MOISTURE IN STACK GAS BY VOLUME                        1.74
     MOLE FRACTION OF DRY GAS                                 0.983

     MOLECULAR WEIGHT OF DRY GAS                              2.00
     MOLECULAR WEIGHT OF STACK GAS                            2.28

     AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           47.66
     AVERAGE STACK GAS TEMPERATURE (C)                       21.7
     ABSOLUTE STACK GAS PRESSURE (MM HG)                    980.
     STACK GAS FLOW RATE (M3/M)                              53.38
     STACK GAS FLOW RATE (NM3/M)                             67.50

     NET TIME OF TEST (MIN.)                                120.
     STACK DIAMETER (M)                                       0.154
     SAMPLING NOZZEL DIAMETER (CM)                            0.305
     % ISOKINETIC                                            78.8

     MERCURY MASS TOTAL (MG)                                 20.0

     MERC. CONC.-TOTAL (MG/NM3)                               8.003
     MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 10.121

     EMISSION RATE-TOTAL- (G/DAY)                           777.86


           STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG

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                     MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 17:04 SCA-19


        BAROMETRIC PRESSURE (IN. HG)                            29.60
        AVG. ORIFICE PRES. DROP (IN. H2O)                        0.140
        VOLUME OF DRY GAS SAMPLED, METER COND.(CF)              88.344
        AVG. METER TEMP. (F)                                    59.
        VOLUME OF DRY GAS SAMPLED (SCF)                         89.283

        TOTAL H2O COLLECTED (ML)                                31.2
        VOLUME OF H2O COLLECTED (SCF)                            1.48
        % MOISTURE IN STACK GAS BY VOLUME                        1.63
        MOLE FRACTION OF DRY GAS                                 0.984

        MOLECULAR WEIGHT OF DRY GAS                              2.00
        MOLECULAR WEIGHT OF STACK GAS                            2.26

        AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  159.4
        AVERAGE STACK GAS TEMPERATURE (F)                        71.
        ABSOLUTE STACK GAS PRESSURE (IN. HG)                     38.56
        STACK GAS FLOW RATE (ACFM)                             1922.
        STACK GAS FLOW RATE (SCFM)                             2432.

        NET TIME OF TEST (MIN.)                                 120.
        STACK DIAMETER (IN.)                                     6.1
        SAMPLING NOZZEL DIAMETER (IN.)                           0.120
        % ISOKINETIC                                            78.4

        MERCURY MASS TOTAL (MG)                                 20.5

        MERC. CONC.-TOTAL (GR/SCF)                               0.004
        MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                  0.004

        EMISSION RATE-TOTAL- (LB/DAY)                            1.768


            STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 17:04 SCA-19


   BAROMETRIC PRESSURE (MM HG)                         752.
   AVG. ORIFICE PRES. DROP (MM H2O)                      3.56
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)            2.502
   AVG. METER TEMP. (C)                                15.0
   VOLUME OF DRY GAS SAMPLED (NM3)                       2.528

   TOTAL H2O COLLECTED (ML)                            31.2
   VOLUME OF H2O COLLECTED (NM3)                         0.042
   % MOISTURE IN STACK GAS BY VOLUME                     1.63
   MOLE FRACTION OF DRY GAS                              0.984

   MOLECULAR WEIGHT OF DRY GAS                           2.00
   MOLECULAR WEIGHT OF STACK GAS                         2.26

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)       48.58
   AVERAGE STACK GAS TEMPERATURE (C)                   21.7
   ABSOLUTE STACK GAS PRESSURE (MM HG)                979.
   STACK GAS FLOW RATE (M3/M)                          54.42
   STACK GAS FLOW RATE (NM3/M)                         68.86

   NET TIME OF TEST (MIN.)                            120.
   STACK DIAMETER (M)                                    0.154
   SAMPLING NOZZEL DIAMETER (CM)                         0.305
   % ISOKINETIC                                        78.4

   MERCURY MASS TOTAL (MG)                             20.5

   MERC. CONC.-TOTAL (MG/NM3)                            8.092
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)             10.239

   EMISSION RATE-TOTAL- (G/DAY)                       802.17


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 19:53 SCA-21


   BAROMETRIC PRESSURE (IN. HG)                           29.50
   AVG. ORIFICE PRES. DROP (IN. H2O)                       0.140
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             88.853
   AVG. METER TEMP. (F)                                   58.
   VOLUME OF DRY GAS SAMPLED (SCF)                        89.666

   TOTAL H2O COLLECTED (ML)                               32.0
   VOLUME OF H2O COLLECTED (SCF)                           1.52
   % MOISTURE IN STACK GAS BY VOLUME                       1.66
   MOLE FRACTION OF DRY GAS                                0.983

   MOLECULAR WEIGHT OF DRY GAS                             2.00
   MOLECULAR WEIGHT OF STACK GAS                           2.27

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)         159.3
   AVERAGE STACK GAS TEMPERATURE (F)                      71.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                   38.46
   STACK GAS FLOW RATE (ACFM)                           1921.
   STACK GAS FLOW RATE (SCFM)                           2423.

   NET TIME OF TEST (MIN.)                               120.
   STACK DIAMETER (IN.)                                    6.1
   SAMPLING NOZZEL DIAMETER (IN.)                          0.120
   % ISOKINETIC                                           79.0

   MERCURY MASS TOTAL (MG)                                20.1

   MERC. CONC.-TOTAL (GR/SCF)                              0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                 0.004

   EMISSION RATE-TOTAL- (LB/DAY)                           1.723


          STANDARD CONDITIONS  =70 DEG F  =29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/25/74 19:53 SCA-21


  BAROMETRIC PRESSURE (MM HG)                            749.
  AVG. ORIFICE PRES. DROP (MM H2O)                         3.56
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.516
  AVG. METER TEMP. (C)                                    14.4
  VOLUME OF DRY GAS SAMPLED (NM3)                          2.539

  TOTAL H2O COLLECTED (ML)                                32.0
  VOLUME OF H2O COLLECTED (NM3)                            0.043
  % MOISTURE IN STACK GAS BY VOLUME                        1.66
  MOLE FRACTION OF DRY GAS                                 0.983

  MOLECULAR WEIGHT OF DRY GAS                              2.00
  MOLECULAR WEIGHT OF STACK GAS                            2.27

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           48.55
  AVERAGE STACK GAS TEMPERATURE (C)                       21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                    977.
  STACK GAS FLOW RATE (M3/M)                              54.39
  STACK GAS FLOW RATE (NM3/M)                             68.61

  NET TIME OF TEST (MIN.)                                120.
  STACK DIAMETER (M)                                       0.154
  SAMPLING NOZZEL DIAMETER (CM)                            0.305
  % ISOKINETIC                                            79.0

  MERCURY MASS TOTAL (MG)                                 20.1

  MERC. CONC.-TOTAL (MG/NM3)                               7.911
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  9.982

  EMISSION RATE-TOTAL- (G/DAY)                           781.52


           STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                 MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 22:46 SCA-23


  BAROMETRIC PRESSURE (IN. HG)                          29.43
  AVG. ORIFICE PRES. DROP (IN. H2O)                      0.141
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            90.610
  AVG. METER TEMP. (F)                                  59.
  VOLUME OF DRY GAS SAMPLED (SCF)                       91.047

  TOTAL H2O COLLECTED (ML)                              36.5
  VOLUME OF H2O COLLECTED (SCF)                          1.73
  % MOISTURE IN STACK GAS BY VOLUME                      1.86
  MOLE FRACTION OF DRY GAS                               0.981

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  158.3
  AVERAGE STACK GAS TEMPERATURE (F)                     71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)                  38.39
  STACK GAS FLOW RATE (ACFM)                          1909.
  STACK GAS FLOW RATE (SCFM)                          2399.

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (IN.)                                   6.1
  SAMPLING NOZZEL DIAMETER (IN.)                         0.120
  % ISOKINETIC                                          81.0

  MERCURY MASS TOTAL (MG)                               18.1

  MERC. CONC.-TOTAL (GR/SCF)                             0.003
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.004

  EMISSION RATE-TOTAL- (LB/DAY)                          1.511


       STANDARD CONDITIONS  =70 DEG F  =29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 22:46 SCA-23


  BAROMETRIC PRESSURE (MM HG)                            743.
  AVG. ORIFICE PRES. DROP (MM H2O)                         3.58
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.566
  AVG. METER TEMP. (C)                                    15.0
  VOLUME OF DRY GAS SAMPLED (NM3)                          2.578

  TOTAL H2O COLLECTED (ML)                                36.5
  VOLUME OF H2O COLLECTED (NM3)                            0.049
  % MOISTURE IN STACK GAS BY VOLUME                        1.86
  MOLE FRACTION OF DRY GAS                                 0.981

  MOLECULAR WEIGHT OF DRY GAS                              2.00
  MOLECULAR WEIGHT OF STACK GAS                            2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           48.26
  AVERAGE STACK GAS TEMPERATURE (C)                       21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                    975.
  STACK GAS FLOW RATE (M3/M)                              54.05
  STACK GAS FLOW RATE (NM3/M)                             67.93

  NET TIME OF TEST (MIN.)                                120.
  STACK DIAMETER (M)                                       0.154
  SAMPLING NOZZEL DIAMETER (CM)                            0.305
  % ISOKINETIC                                            81.0

  MERCURY MASS TOTAL (MG)                                 18.1

  MERC. CONC.-TOTAL (MG/NM3)                               7.010
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  8.810

  EMISSION RATE-TOTAL- (G/DAY)                           685.53


       STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG


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                  MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 0200  SCA-25


BAROMETRIC PRESSURE (IN. HG)                               29.38
AVG. ORIFICE PRES. DROP (IN. H2O)                           0.145
VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                 91.722
AVG. METER TEMP. (F)                                       58.
VOLUME OF DRY GAS SAMPLED (SCF)                            92.186

TOTAL H2O COLLECTED (ML)                                   36.7
VOLUME OF H2O COLLECTED (SCF)                               1.74
% MOISTURE IN STACK GAS BY VOLUME                           1.85
MOLE FRACTION OF DRY GAS                                    0.981

MOLECULAR WEIGHT OF DRY GAS                                 2.00
MOLECULAR WEIGHT OF STACK GAS                               2.30

AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)             158.1
AVERAGE STACK GAS TEMPERATURE (F)                          71.
ABSOLUTE STACK GAS PRESSURE (IN. HG)                       38.54
STACK GAS FLOW RATE (ACFM)                               1906.
STACK GAS FLOW RATE (SCFM)                               2405.

NET TIME OF TEST (MIN.)                                   120.
STACK DIAMETER (IN.)                                        6.1
SAMPLING NOZZEL DIAMETER (IN.)                              0.120
% ISOKINETIC                                               81.8

MERCURY MASS TOTAL (MG)                                    18.2

MERC. CONC.-TOTAL (GR/SCF)                                  0.003
MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                     0.004

EMISSION RATE-TOTAL- (LB/DAY)                               1.507


         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 0200  SCA-25


   BAROMETRIC PRESSURE (MM HG)                            746.
   AVG. ORIFICE PRES. DROP (MM H2O)                         3.68
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.597
   AVG. METER TEMP. (C)                                   14.4
   VOLUME OF DRY GAS SAMPLED (NM3)                          2.610

   TOTAL H2O COLLECTED (ML)                               36.7
   VOLUME OF H2O COLLECTED (NM3)                            0.049
   % MOISTURE IN STACK GAS BY VOLUME                        1.85
   MOLE FRACTION OF DRY GAS                                 0.981

   MOLECULAR WEIGHT OF DRY GAS                              2.00
   MOLECULAR WEIGHT OF STACK GAS                            2.30

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)          48.18
   AVERAGE STACK GAS TEMPERATURE (C)                      21.7
   ABSOLUTE STACK GAS PRESSURE (MM HG)                   979.
   STACK GAS FLOW RATE (M3/M)                             53.97
   STACK GAS FLOW RATE (NM3/M)                            68.10

   NET TIME OF TEST (MIN.)                               120.
   STACK DIAMETER (M)                                       0.154
   SAMPLING NOZZEL DIAMETER (CM)                            0.305
   % ISOKINETIC                                           81.8

   MERCURY MASS TOTAL (MG)                                18.2

   MERC. CONC.-TOTAL (MG/NM3)                               6.973
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  8.799

   EMISSION RATE-TOTAL- (G/DAY)                          683.64


         STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG

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                    MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 05:00 SCA-27


     BAROMETRIC PRESSURE (IN. HG)                           29.38
     AVG. ORIFICE PRES. DROP (IN. H2O)                       0.145
     VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             90.821
     AVG. METER TEMP. (F)                                   58.
     VOLUME OF DRY GAS SAMPLED (SCF)                        91.281

     TOTAL H2O COLLECTED (ML)                               37.3
     VOLUME OF H2O COLLECTED (SCF)                           1.77
     % MOISTURE IN STACK GAS BY VOLUME                       1.90
     MOLE FRACTION OF DRY GAS                                0.981

     MOLECULAR WEIGHT OF DRY GAS                             2.00
     MOLECULAR WEIGHT OF STACK GAS                           2.30

     AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  157.6
     AVERAGE STACK GAS TEMPERATURE (F)               71.
     ABSOLUTE STACK GAS PRESSURE (IN. HG)            38.54
     STACK GAS FLOW RATE (ACFM)                    1900.
     STACK GAS FLOW RATE (SCFM)                    2396.

     NET TIME OF TEST (MIN.)                        120.
     STACK DIAMETER (IN.)                             6.1
     SAMPLING NOZZEL DIAMETER (IN.)                   0.120
     % ISOKINETIC                                    81.3

     MERCURY MASS TOTAL (MG)                         18.0

     MERC. CONC.-TOTAL (GR/SCF)                       0.003
     MERC. CONC.-TOTAL @ STACK COND. (GR/CF)          0.004

     EMISSION RATE-TOTAL- (LB/DAY)                    1.498


         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 05:00 SCA-27


  BAROMETRIC PRESSURE (MM HG)                           746.
  AVG. ORIFICE PRES. DROP (MM H2O)                        3.68
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              2.572
  AVG. METER TEMP. (C)                                  14.4
  VOLUME OF DRY GAS SAMPLED (NM3)                         2.585

  TOTAL H2O COLLECTED (ML)                              37.3
  VOLUME OF H2O COLLECTED (NM3)                           0.050
  % MOISTURE IN STACK GAS BY VOLUME                       1.90
  MOLE FRACTION OF DRY GAS                                0.981

  MOLECULAR WEIGHT OF DRY GAS                             2.00
  MOLECULAR WEIGHT OF STACK GAS                           2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         48.03
  AVERAGE STACK GAS TEMPERATURE (C)                     21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                  979.
  STACK GAS FLOW RATE (M3/M)                            53.80
  STACK GAS FLOW RATE (NM3/M)                           67.85

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (M)                                      0.154
  SAMPLING NOZZLE DIAMETER (CM)                           0.305
  % ISOKINETIC                                          81.3

  MERCURY MASS TOTAL (MG)                               18.0

  MERC. CONC.-TOTAL (MG/NM3)                              6.957
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 8.774

  EMISSION RATE-TOTAL- (G/DAY)                          679.63


        STANDARD CONDITIONS  =21.1 DEG C , =760 MM HG


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                 MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 08:05 SCA-29

   BAROMETRIC PRESSURE (IN. HG)                         29.40
   AVG. ORIFICE PRES. DROP (IN. H2O)                     0.139
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)           89.067
   AVG. METER TEMP. (F)                                 59.
   VOLUME OF DRY GAS SAMPLED (SCF)                      89.405

   TOTAL H2O COLLECTED (ML)                             33.4
   VOLUME OF H2O COLLECTED (SCF)                         1.58
   % MOISTURE IN STACK GAS BY VOLUME                     1.74
   MOLE FRACTION OF DRY GAS                              0.983

   MOLECULAR WEIGHT OF DRY GAS                           2.00
   MOLECULAR WEIGHT OF STACK GAS                         2.28

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  158.3
   AVERAGE STACK GAS TEMPERATURE (F)               72.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)            38.36
   STACK GAS FLOW RATE (ACFM)                   1908.
   STACK GAS FLOW RATE (SCFM)                   2395.

   NET TIME OF TEST (MIN.)                       120.
   STACK DIAMETER (IN.)                             6.1
   SAMPLING NOZZEL DIAMETER (IN.)                   0.120
   % ISOKINETIC                                    79.7

   MERCURY MASS TOTAL (MG)                          19.1

   MERC. CONC.-TOTAL (GR/SCF)                        0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.004

   EMISSION RATE-TOTAL- (LB/DAY)                     1.620


      STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 08:05 SCA-29


  BAROMETRIC PRESSURE (MM HG)                         747.
  AVG. ORIFICE PRES. DROP (MM H2O)                      3.53
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)            2.522
  AVG. METER TEMP. (C)                                 15.0
  VOLUME OF DRY GAS SAMPLED (NM3)                       2.532

  TOTAL H2O COLLECTED (ML)                             33.4
  VOLUME OF H2O COLLECTED (NM3)                         0.045
  % MOISTURE IN STACK GAS BY VOLUME                     1.74
  MOLE FRACTION OF DRY GAS                              0.983

  MOLECULAR WEIGHT OF DRY GAS                           2.00
  MOLECULAR WEIGHT OF STACK GAS                         2.28

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        48.24
  AVERAGE STACK GAS TEMPERATURE (C)                    22.2
  ABSOLUTE STACK GAS PRESSURE (MM HG)                 974.
  STACK GAS FLOW RATE (M3/M)                           54.03
  STACK GAS FLOW RATE (NM3/M)                          67.81

  NET TIME OF TEST (MIN.)                             120.
  STACK DIAMETER (M)                                    0.154
  SAMPLING NOZZEL DIAMETER (CM)                         0.305
  % ISOKINETIC                                         79.7

  MERCURY MASS TOTAL (MG)                              19.1

  MERC. CONC.-TOTAL (MG/NM3)                            7.525
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               9.444

  EMISSION RATE-TOTAL- (G/DAY)                        734.61


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                   MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 08:05 SCA-31


   BAROMETRIC PRESSURE (IN. HG)                           29.41
   AVG. ORIFICE PRES. DROP (IN. H2O)                       0.139
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             88.229
   AVG. METER TEMP. (F)                                   64.
   VOLUME OF DRY GAS SAMPLED (SCF)                        87.749

   TOTAL H2O COLLECTED (ML)                               41.4
   VOLUME OF H2O COLLECTED (SCF)                           1.96
   % MOISTURE IN STACK GAS BY VOLUME                       2.19
   MOLE FRACTION OF DRY GAS                                0.978

   MOLECULAR WEIGHT OF DRY GAS                             2.00
   MOLECULAR WEIGHT OF STACK GAS                           2.35

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  154.0
   AVERAGE STACK GAS TEMPERATURE (F)               70.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)            38.37
   STACK GAS FLOW RATE (ACFM)                    1857.
   STACK GAS FLOW RATE (SCFM)                    2329.

   NET TIME OF TEST (MIN.)                        120.
   STACK DIAMETER (IN.)                              6.1
   SAMPLING NOZZEL DIAMETER (IN.)                    0.120
   % ISOKINETIC                                    80.4

   MERCURY MASS TOTAL (MG)                         20.5

   MERC. CONC.-TOTAL (GR/SCF)                        0.004
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.005

   EMISSION RATE-TOTAL- (LB/DAY)                     1.722


        STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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MERCURY EMISSION DATA REPORT
METRIC SYSTEM

11:00
EPA STACK TESTING-SOBIN BANGOR,MAINE 9/26/74 ~~08~~:05 SCA-31

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BAROMETRIC PRESSURE (MM HG)                          747.
AVG. ORIFICE PRES. DROP (MM H2O)                       3.53
VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.498
AVG. METER TEMP. (C)                                  17.8
VOLUME OF DRY GAS SAMPLED (NM3)                        2.485

TOTAL H2O COLLECTED (ML)                              41.4
VOLUME OF H2O COLLECTED (NM3)                          0.056
% MOISTURE IN STACK GAS BY VOLUME                      2.19
MOLE FRACTION OF DRY GAS                               0.978

MOLECULAR WEIGHT OF DRY GAS                            2.00
MOLECULAR WEIGHT OF STACK GAS                          2.35

AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         46.94
AVERAGE STACK GAS TEMPERATURE (C)                     21.1
ABSOLUTE STACK GAS PRESSURE (MM HG)                  975.
STACK GAS FLOW RATE (M3/M)                            52.58
STACK GAS FLOW RATE (NM3/M)                           65.95

NET TIME OF TEST (MIN.)                              120.
STACK DIAMETER (M)                                     0.154
SAMPLING NOZZEL DIAMETER (CM)                          0.305
% ISOKINETIC                                          80.4

MERCURY MASS TOTAL (MG)                               20.5

MERC. CONC.-TOTAL (MG/NM3)                             8.225
MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               10.317

EMISSION RATE-TOTAL- (G/DAY)                         781.01
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STANDARD CONDITIONS *21.1 DEG C *760 MM HG

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WASHINGTON, D.C.
11/14/74

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                MERCURY EMISSION DATA REPORT

    EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 14:00 SCA-33

      BAROMETRIC PRESSURE (IN. HG)                          29.40
      AVG. ORIFICE PRES. DROP (IN. H2O)                      0.139
      VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            88.843
      AVG. METER TEMP. (F)                                  66.
      VOLUME OF DRY GAS SAMPLED (SCF)                       87.993

      TOTAL H2O COLLECTED (ML)                              32.7
      VOLUME OF H2O COLLECTED (SCF)                          1.55
      % MOISTURE IN STACK GAS BY VOLUME                      1.73
      MOLE FRACTION OF DRY GAS                               0.983

      MOLECULAR WEIGHT OF DRY GAS                            2.00
      MOLECULAR WEIGHT OF STACK GAS                          2.28

      AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)   156.9
      AVERAGE STACK GAS TEMPERATURE (F)                72.
      ABSOLUTE STACK GAS PRESSURE (IN. HG)             38.36
      STACK GAS FLOW RATE (ACFM)                     1892.
      STACK GAS FLOW RATE (SCFM)                     2375.

      NET TIME OF TEST (MIN.)                         120.
      STACK DIAMETER (IN.)                              6.1
      SAMPLING NOZZEL DIAMETER (IN.)                    0.120
      % ISOKINETIC                                     79.1

      MERCURY MASS TOTAL (MG)                          13.8

      MERC. CONC.-TOTAL (GR/SCF)                        0.002
      MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.003

      EMISSION RATE-TOTAL- (LB/DAY)                     1.182


         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

                 ENGINEERING SCIENCE INC.
                    WASHINGTON, D.C.
                        11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 14:00 SCA-33


  BAROMETRIC PRESSURE (MM HG)                            747.
  AVG. ORIFICE PRES. DROP (MM H2O)                         3.53
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.516
  AVG. METER TEMP. (C)                                    18.9
  VOLUME OF DRY GAS SAMPLED (NM3)                          2.492

  TOTAL H2O COLLECTED (ML)                                32.7
  VOLUME OF H2O COLLECTED (NM3)                            0.044
  % MOISTURE IN STACK GAS BY VOLUME                        1.73
  MOLE FRACTION OF DRY GAS                                 0.983

  MOLECULAR WEIGHT OF DRY GAS                              2.00
  MOLECULAR WEIGHT OF STACK GAS                            2.28

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           47.84
  AVERAGE STACK GAS TEMPERATURE (C)                       22.2
  ABSOLUTE STACK GAS PRESSURE (MM HG)                    974.
  STACK GAS FLOW RATE (M3/M)                              53.58
  STACK GAS FLOW RATE (NM3/M)                             67.26

  NET TIME OF TEST (MIN.)                                120.
  STACK DIAMETER (M)                                       0.154
  SAMPLING NOZZEL DIAMETER (CM)                            0.305
  % ISOKINETIC                                            79.1

  MERCURY MASS TOTAL (MG)                                 13.8

  MERC. CONC.-TOTAL (MG/NM3)                               5.535
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  6.948

  EMISSION RATE-TOTAL- (G/DAY)                           535.98


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                        MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 17:06 SCA-35


        BAROMETRIC PRESSURE (IN. HG)                              29.35
        AVG. ORIFICE PRES. DROP (IN. H2O)                          0.139
        VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                54.823
        AVG. METER TEMP. (F)                                      65.
        VOLUME OF DRY GAS SAMPLED (SCF)                           54.310

        TOTAL H2O COLLECTED (ML)                                  13.4
        VOLUME OF H2O COLLECTED (SCF)                              0.64
        % MOISTURE IN STACK GAS BY VOLUME                          1.16
        MOLE FRACTION OF DRY GAS                                   0.988

        MOLECULAR WEIGHT OF DRY GAS                                2.00
        MOLECULAR WEIGHT OF STACK GAS                              2.18

        AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  160.3
        AVERAGE STACK GAS TEMPERATURE (F)                71.
        ABSOLUTE STACK GAS PRESSURE (IN. HG)             38.31
        STACK GAS FLOW RATE (ACFM)                     1933.
        STACK GAS FLOW RATE (SCFM)                     2441.

        NET TIME OF TEST (MIN.)                          74.5
        STACK DIAMETER (IN.)                              6.1
        SAMPLING NOZZEL DIAMETER (IN.)                    0.120
        % ISOKINETIC                                     76.5

        MERCURY MASS TOTAL (MG)                          13.4

        MERC. CONC.-TOTAL (GR/SCF)                        0.004
        MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.005

        EMISSION RATE-TOTAL- (LB/DAY)                     1.915


            STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                     MERCURY EMISSION DATA REPORT
                             METRIC SYSTEM

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 17:06 SCA-35


   BAROMETRIC PRESSURE (MM HG)                           745.
   AVG. ORIFICE PRES. DROP (MM H2O)                        3.53
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              1.552
   AVG. METER TEMP. (C)                                  18.3
   VOLUME OF DRY GAS SAMPLED (NM3)                         1.538

   TOTAL H2O COLLECTED (ML)                              13.4
   VOLUME OF H2O COLLECTED (NM3)                           0.018
   % MOISTURE IN STACK GAS BY VOLUME                       1.16
   MOLE FRACTION OF DRY GAS                                0.988

   MOLECULAR WEIGHT OF DRY GAS                             2.00
   MOLECULAR WEIGHT OF STACK GAS                           2.18

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         48.86
   AVERAGE STACK GAS TEMPERATURE (C)                     21.7
   ABSOLUTE STACK GAS PRESSURE (MM HG)                  973.
   STACK GAS FLOW RATE (M3/M)                            54.72
   STACK GAS FLOW RATE (NM3/M)                           69.12

   NET TIME OF TEST (MIN.)                               74.5
   STACK DIAMETER (M)                                     0.154
   SAMPLING NOZZEL DIAMETER (CM)                          0.305
   % ISOKINETIC                                          76.5

   MERCURY MASS TOTAL (MG)                               13.4

   MERC. CONC.-TOTAL (MG/NM3)                             8.727
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               11.025

   EMISSION RATE-TOTAL- (G/DAY)                         868.58


         STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG


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                    MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 20:42 SCA-37


       BAROMETRIC PRESSURE (IN. HG)                         29.41
       AVG. ORIFICE PRES. DROP (IN. H2O)                     0.138
       VOLUME OF DRY GAS SAMPLED, METER COND.(CF)           58.870
       AVG. METER TEMP. (F)                                 65.
       VOLUME OF DRY GAS SAMPLED (SCF)                      58.438

       TOTAL H2O COLLECTED (ML)                             22.0
       VOLUME OF H2O COLLECTED (SCF)                         1.04
       % MOISTURE IN STACK GAS BY VOLUME                     1.75
       MOLE FRACTION OF DRY GAS                              0.982

       MOLECULAR WEIGHT OF DRY GAS                           2.00
       MOLECULAR WEIGHT OF STACK GAS                         2.28

       AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  155.9
       AVERAGE STACK GAS TEMPERATURE (F)                70.
       ABSOLUTE STACK GAS PRESSURE (IN. HG)             38.57
       STACK GAS FLOW RATE (ACFM)                     1880.
       STACK GAS FLOW RATE (SCFM)                     2379.

       NET TIME OF TEST (MIN.)                          80.0
       STACK DIAMETER (IN.)                              6.1
       SAMPLING NOZZEL DIAMETER (IN.)                    0.120
       % ISOKINETIC                                     78.6

       MERCURY MASS TOTAL (MG)                          11.5

       MERC. CONC.-TOTAL (GR/SCF)                        0.003
       MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.004

       EMISSION RATE-TOTAL- (LB/DAY)                     1.483


            STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 20:42 SCA-37


    BAROMETRIC PRESSURE (MM HG)                           747.
    AVG. ORIFICE PRES. DROP (MM H2O)                        3.51
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              1.667
    AVG. METER TEMP. (C)                                   18.3
    VOLUME OF DRY GAS SAMPLED (NM3)                         1.655

    TOTAL H2O COLLECTED (ML)                               22.0
    VOLUME OF H2O COLLECTED (NM3)                           0.030
    % MOISTURE IN STACK GAS BY VOLUME                       1.75
    MOLE FRACTION OF DRY GAS                                0.982

    MOLECULAR WEIGHT OF DRY GAS                             2.00
    MOLECULAR WEIGHT OF STACK GAS                           2.28

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)          47.53
    AVERAGE STACK GAS TEMPERATURE (C)                      21.3
    ABSOLUTE STACK GAS PRESSURE (MM HG)                   980.
    STACK GAS FLOW RATE (M3/M)                             53.23
    STACK GAS FLOW RATE (NM3/M)                            67.38

    NET TIME OF TEST (MIN.)                                80.0
    STACK DIAMETER (M)                                      0.154
    SAMPLING NOZZEL DIAMETER (CM)                           0.305
    % ISOKINETIC                                           78.6

    MERCURY MASS TOTAL (MG)                                11.5

    MERC. CONC.-TOTAL (MG/NM3)                              6.935
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 8.778

    EMISSION RATE-TOTAL- (G/DAY)                          672.74


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                        MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 23:00 SCA-39


  BAROMETRIC PRESSURE (IN. HG)                              29.42
  AVG. ORIFICE PRES. DROP (IN. H2O)                          0.141
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                89.394
  AVG. METER TEMP. (F)                                      65.
  VOLUME OF DRY GAS SAMPLED (SCF)                           88.768

  TOTAL H2O COLLECTED (ML)                                  34.6
  VOLUME OF H2O COLLECTED (SCF)                              1.64
  % MOISTURE IN STACK GAS BY VOLUME                          1.81
  MOLE FRACTION OF DRY GAS                                   0.982

  MOLECULAR WEIGHT OF DRY GAS                                2.00
  MOLECULAR WEIGHT OF STACK GAS                              2.29

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  157.3
  AVERAGE STACK GAS TEMPERATURE (F)               71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)            38.58
  STACK GAS FLOW RATE (ACFM)                    1896.
  STACK GAS FLOW RATE (SCFM)                    2396.

  NET TIME OF TEST (MIN.)                        120.
  STACK DIAMETER (IN.)                             6.1
  SAMPLING NOZZEL DIAMETER (IN.)                   0.120
  % ISOKINETIC                                    79.1

  MERCURY MASS TOTAL (MG)                         17.3

  MERC. CONC.-TOTAL (GR/SCF)                       0.003
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)          0.004

  EMISSION RATE-TOTAL- (LB/DAY)                    1.477


          STANDARD CONDITIONS  =70 DEG F  =29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/26/74 23:00 SCA-39


   BAROMETRIC PRESSURE (MM HG)                        747.
   AVG. ORIFICE PRES. DROP (MM H2O)                     3.58
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)           2.531
   AVG. METER TEMP. (C)                                18.3
   VOLUME OF DRY GAS SAMPLED (NM3)                      2.514

   TOTAL H2O COLLECTED (ML)                            34.6
   VOLUME OF H2O COLLECTED (NM3)                        0.046
   % MOISTURE IN STACK GAS BY VOLUME                    1.81
   MOLE FRACTION OF DRY GAS                             0.982

   MOLECULAR WEIGHT OF DRY GAS                          2.00
   MOLECULAR WEIGHT OF STACK GAS                        2.29

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)       47.94
   AVERAGE STACK GAS TEMPERATURE (C)                   21.7
   ABSOLUTE STACK GAS PRESSURE (MM HG)                980.
   STACK GAS FLOW RATE (M3/M)                          53.70
   STACK GAS FLOW RATE (NM3/M)                         67.85

   NET TIME OF TEST (MIN.)                            120.
   STACK DIAMETER (M)                                   0.154
   SAMPLING NOZZEL DIAMETER (CM)                        0.305
   % ISOKINETIC                                        79.1

   MERCURY MASS TOTAL (MG)                             17.3

   MERC. CONC.-TOTAL (MG/NM3)                           6.856
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              8.664

   EMISSION RATE-TOTAL- (G/DAY)                       669.76


       STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG


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                MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 0:200 SCA-41

     BAROMETRIC PRESSURE (IN. HG)                          29.44
     AVG. ORIFICE PRES. DROP (IN. H2O)                      0.142
     VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            92.200
     AVG. METER TEMP. (F)                                  56.
     VOLUME OF DRY GAS SAMPLED (SCF)                       93.215

     TOTAL H2O COLLECTED (ML)                              37.7
     VOLUME OF H2O COLLECTED (SCF)                          1.79
     % MOISTURE IN STACK GAS BY VOLUME                      1.88
     MOLE FRACTION OF DRY GAS                               0.981

     MOLECULAR WEIGHT OF DRY GAS                            2.00
     MOLECULAR WEIGHT OF STACK GAS                          2.30

     AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  157.9
     AVERAGE STACK GAS TEMPERATURE (F)                71.
     ABSOLUTE STACK GAS PRESSURE (IN. HG)             39.30
     STACK GAS FLOW RATE (ACFM)                     1904.
     STACK GAS FLOW RATE (SCFM)                     2449.

     NET TIME OF TEST (MIN.)                         120.
     STACK DIAMETER (IN.)                              6.1
     SAMPLING NOZZEL DIAMETER (IN.)                    0.120
     % ISOKINETIC                                     81.2

     MERCURY MASS TOTAL (MG)                          15.5

     MERC. CONC.-TOTAL (GR/SCF)                        0.003
     MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.003

     EMISSION RATE-TOTAL- (LB/DAY)                     1.291


          STANDARD CONDITIONS  =70 DEG F  -29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 0:200 SCA-41


  BAROMETRIC PRESSURE (MM HG)                              748.
  AVG. ORIFICE PRES. DROP (MM H2O)                           3.61
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                 2.611
  AVG. METER TEMP. (C)                                      13.3
  VOLUME OF DRY GAS SAMPLED (NM3)                            2.639

  TOTAL H2O COLLECTED (ML)                                  37.7
  VOLUME OF H2O COLLECTED (NM3)                              0.051
  % MOISTURE IN STACK GAS BY VOLUME                          1.88
  MOLE FRACTION OF DRY GAS                                   0.981

  MOLECULAR WEIGHT OF DRY GAS                                2.00
  MOLECULAR WEIGHT OF STACK GAS                              2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)             48.13
  AVERAGE STACK GAS TEMPERATURE (C)                         21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                      998.
  STACK GAS FLOW RATE (M3/M)                                53.92
  STACK GAS FLOW RATE (NM3/M)                               69.35

  NET TIME OF TEST (MIN.)                                  120.
  STACK DIAMETER (M)                                         0.154
  SAMPLING NOZZEL DIAMETER (CM)                              0.305
  % ISOKINETIC                                              81.2

  MERCURY MASS TOTAL (MG)                                   15.5

  MERC. CONC.-TOTAL (MG/NM3)                                 5.864
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                    7.543

  EMISSION RATE-TOTAL- (G/DAY)                             585.49


          STANDARD CONDITIONS  =21.1 DEG C  =760 MM HG


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                 MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 0:500 SCA-43


  BAROMETRIC PRESSURE (IN. HG)
  AVG. ORIFICE PRES. DROP (IN. H2O)                     29.50
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             0.136
  AVG. METER TEMP. (F)                                  89.577
  VOLUME OF DRY GAS SAMPLED (SCF)                       54.
                                                        91.100

  TOTAL H2O COLLECTED (ML)
  VOLUME OF H2O COLLECTED (SCF)                         33.5
  % MOISTURE IN STACK GAS BY VOLUME                      1.59
  MOLE FRACTION OF DRY GAS                               1.71
                                                         0.983

  MOLECULAR WEIGHT OF DRY GAS
  MOLECULAR WEIGHT OF STACK GAS                          2.00
                                                         2.27

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  154.3
  AVERAGE STACK GAS TEMPERATURE (F)                71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)             39.36
  STACK GAS FLOW RATE (ACFM)                    1860.
  STACK GAS FLOW RATE (SCFM)                    2401.

  NET TIME OF TEST (MIN.)
  STACK DIAMETER (IN.)                            120.
  SAMPLING NOZZEL DIAMETER (IN.)                    6.1
  % ISOKINETIC                                      0.120
                                                   81.0

  MERCURY MASS TOTAL (MG)
                                                   17.3

  MERC. CONC.-TOTAL (GR/SCF)
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.003
                                                    0.004
  EMISSION RATE-TOTAL- (LB/DAY)
                                                    1.441


     STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                  MERCURY EMISSION DATA REPORT
                         METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 0:500 SCA-43


   BAROMETRIC PRESSURE (MM HG)                          749.
   AVG. ORIFICE PRES. DROP (MM H2O)                       3.45
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.536
   AVG. METER TEMP. (C)                                  12.2
   VOLUME OF DRY GAS SAMPLED (NM3)                        2.580

   TOTAL H2O COLLECTED (ML)                              33.5
   VOLUME OF H2O COLLECTED (NM3)                          0.045
   % MOISTURE IN STACK GAS BY VOLUME                      1.71
   MOLE FRACTION OF DRY GAS                               0.983

   MOLECULAR WEIGHT OF DRY GAS                            2.00
   MOLECULAR WEIGHT OF STACK GAS                          2.27

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         47.03
   AVERAGE STACK GAS TEMPERATURE (C)                     21.7
   ABSOLUTE STACK GAS PRESSURE (MM HG)                 1000.
   STACK GAS FLOW RATE (M3/M)                            52.68
   STACK GAS FLOW RATE (NM3/M)                           67.97

   NET TIME OF TEST (MIN.)                              120.
   STACK DIAMETER (M)                                     0.154
   SAMPLING NOZZEL DIAMETER (CM)                          0.305
   % ISOKINETIC                                          81.0

   MERCURY MASS TOTAL (MG)                               17.3

   MERC. CONC.-TOTAL (MG/NM3)                             6.681
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                8.622

   EMISSION RATE-TOTAL- (G/DAY)                         653.82


       STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                    MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 08:00 SCA-45

 BAROMETRIC PRESSURE (IN. HG)                              29.55
 AVG. ORIFICE PRES. DROP (IN. H2O)                          0.132
 VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                86.324
 AVG. METER TEMP. (F)                                      57.
 VOLUME OF DRY GAS SAMPLED (SCF)                           87.429

 TOTAL H2O COLLECTED (ML)                                  36.5
 VOLUME OF H2O COLLECTED (SCF)                              1.73
 % MOISTURE IN STACK GAS BY VOLUME                          1.94
 MOLE FRACTION OF DRY GAS                                   0.981

 MOLECULAR WEIGHT OF DRY GAS                                2.00
 MOLECULAR WEIGHT OF STACK GAS                              2.31

 AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            152.4
 AVERAGE STACK GAS TEMPERATURE (F)                         70.
 ABSOLUTE STACK GAS PRESSURE (IN. HG)                      39.32
 STACK GAS FLOW RATE (ACFM)                              1837.
 STACK GAS FLOW RATE (SCFM)                              2368.

 NET TIME OF TEST (MIN.)                                  120.
 STACK DIAMETER (IN.)                                       6.1
 SAMPLING NOZZEL DIAMETER (IN.)                             0.120
 % ISOKINETIC                                              78.8

 MERCURY MASS TOTAL (MG)                                   15.6

 MERC. CONC.-TOTAL (GR/SCF)                                 0.003
 MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.004

 EMISSION RATE-TOTAL- (LB/DAY)                              1.342

         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 08:00 SCA-45


    BAROMETRIC PRESSURE (MM HG)                         751.
    AVG. ORIFICE PRES. DROP (MM H2O)                      3.35
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)            2.444
    AVG. METER TEMP. (C)                                 13.9
    VOLUME OF DRY GAS SAMPLED (NM3)                       2.476

    TOTAL H2O COLLECTED (ML)                             36.5
    VOLUME OF H2O COLLECTED (NM3)                         0.049
    % MOISTURE IN STACK GAS BY VOLUME                     1.94
    MOLE FRACTION OF DRY GAS                              0.981

    MOLECULAR WEIGHT OF DRY GAS                           2.00
    MOLECULAR WEIGHT OF STACK GAS                         2.31

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        46.45
    AVERAGE STACK GAS TEMPERATURE (C)                    21.1
    ABSOLUTE STACK GAS PRESSURE (MM HG)                 999.
    STACK GAS FLOW RATE (M3/M)                           52.03
    STACK GAS FLOW RATE (NM3/M)                          67.04

    NET TIME OF TEST (MIN.)                             120.
    STACK DIAMETER (M)                                    0.154
    SAMPLING NOZZEL DIAMETER (CM)                         0.305
    % ISOKINETIC                                         78.8

    MERCURY MASS TOTAL (MG)                              15.6

    MERC. CONC.-TOTAL (MG/NM3)                            6.308
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               8.129

    EMISSION RATE-TOTAL- (G/DAY)                        608.90


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 11:00 SCA-47

   BAROMETRIC PRESSURE (IN. HG)                              29.55
   AVG. ORIFICE PRES. DROP (IN. H2O)                          0.139
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                89.533
   AVG. METER TEMP. (F)                                      75.
   VOLUME OF DRY GAS SAMPLED (SCF)                           87.630

   TOTAL H2O COLLECTED (ML)                                  35.5
   VOLUME OF H2O COLLECTED (SCF)                              1.68
   % MOISTURE IN STACK GAS BY VOLUME                          1.88
   MOLE FRACTION OF DRY GAS                                   0.981

   MOLECULAR WEIGHT OF DRY GAS                                2.00
   MOLECULAR WEIGHT OF STACK GAS                              2.30

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            152.5
   AVERAGE STACK GAS TEMPERATURE (F)                         70.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                      39.32
   STACK GAS FLOW RATE (ACFM)                              1838.
   STACK GAS FLOW RATE (SCFM)                              2370.

   NET TIME OF TEST (MIN.)                                  120.
   STACK DIAMETER (IN.)                                       6.1
   SAMPLING NOZZEL DIAMETER (IN.)                             0.120
   % ISOKINETIC                                              78.9

   MERCURY MASS TOTAL (MG)                                   18.1

   MERC. CONC.-TOTAL (GR/SCF)                                 0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.004

   EMISSION RATE-TOTAL- (LB/DAY)                              1.551

        STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

                    ENGINEERING SCIENCE INC.
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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 11:00 SCA-47


  BAROMETRIC PRESSURE (MM HG)                             751.
  AVG. ORIFICE PRES. DROP (MM H2O)                          3.53
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                2.535
  AVG. METER TEMP. (C)                                     23.9
  VOLUME OF DRY GAS SAMPLED (NM3)                           2.481

  TOTAL H2O COLLECTED (ML)                                 35.5
  VOLUME OF H2O COLLECTED (NM3)                             0.048
  % MOISTURE IN STACK GAS BY VOLUME                         1.88
  MOLE FRACTION OF DRY GAS                                  0.981

  MOLECULAR WEIGHT OF DRY GAS                               2.00
  MOLECULAR WEIGHT OF STACK GAS                             2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)            46.47
  AVERAGE STACK GAS TEMPERATURE (C)                        21.1
  ABSOLUTE STACK GAS PRESSURE (MM HG)                     999.
  STACK GAS FLOW RATE (M3/M)                               52.05
  STACK GAS FLOW RATE (NM3/M)                              67.11

  NET TIME OF TEST (MIN.)                                 120.
  STACK DIAMETER (M)                                        0.154
  SAMPLING NOZZEL DIAMETER (CM)                             0.305
  % ISOKINETIC                                             78.9

  MERCURY MASS TOTAL (MG)                                  18.1

  MERC. CONC.-TOTAL (MG/NM3)                                7.283
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                   9.391

  EMISSION RATE-TOTAL- (G/DAY)                            703.70


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                  MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 14:00 SCA-49


   BAROMETRIC PRESSURE (IN. HG)                              29.58
   AVG. ORIFICE PRES. DROP (IN. H2O)                          0.142
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                90.271
   AVG. METER TEMP. (F)                                      73.
   VOLUME OF DRY GAS SAMPLED (SCF)                           88.774

   TOTAL H2O COLLECTED (ML)                                  32.8
   VOLUME OF H2O COLLECTED (SCF)                              1.55
   % MOISTURE IN STACK GAS BY VOLUME                          1.72
   MOLE FRACTION OF DRY GAS                                   0.983

   MOLECULAR WEIGHT OF DRY GAS                                2.00
   MOLECULAR WEIGHT OF STACK GAS                              2.28

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            155.0
   AVERAGE STACK GAS TEMPERATURE (F)                         70.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                      39.35
   STACK GAS FLOW RATE (ACFM)                              1869.
   STACK GAS FLOW RATE (SCFM)                              2416.

   NET TIME OF TEST (MIN.)                                  120.
   STACK DIAMETER (IN.)                                       6.1
   SAMPLING NOZZEL DIAMETER (IN.)                             0.120
   % ISOKINETIC                                              78.4

   MERCURY MASS TOTAL (MG)                                   19.8

   MERC. CONC.-TOTAL (GR/SCF)                                 0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.004

   EMISSION RATE-TOTAL- (LB/DAY)                              1.709


       STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 14:00 SCA-49


   BAROMETRIC PRESSURE (MM HG)                              751.
   AVG. ORIFICE PRES. DROP (MM H2O)                           3.61
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                 2.556
   AVG. METER TEMP. (C)                                      22.8
   VOLUME OF DRY GAS SAMPLED (NM3)                            2.514

   TOTAL H2O COLLECTED (ML)                                  32.8
   VOLUME OF H2O COLLECTED (NM3)                              0.044
   % MOISTURE IN STACK GAS BY VOLUME                          1.72
   MOLE FRACTION OF DRY GAS                                   0.983

   MOLECULAR WEIGHT OF DRY GAS                                2.00
   MOLECULAR WEIGHT OF STACK GAS                              2.28

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)             47.25
   AVERAGE STACK GAS TEMPERATURE (C)                         21.1
   ABSOLUTE STACK GAS PRESSURE (MM HG)                      999.
   STACK GAS FLOW RATE (M3/M)                                52.93
   STACK GAS FLOW RATE (NM3/M)                               68.40

   NET TIME OF TEST (MIN.)                                  120.
   STACK DIAMETER (M)                                         0.154
   SAMPLING NOZZEL DIAMETER (CM)                              0.305
   % ISOKINETIC                                              78.4

   MERCURY MASS TOTAL (MG)                                   19.8

   MERC. CONC.-TOTAL (MG/NM3)                                 7.872
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                   10.175

   EMISSION RATE-TOTAL- (G/DAY)                             775.28


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 17:05 SCA-51

   BAROMETRIC PRESSURE (IN. HG)                                 29.60
   AVG. ORIFICE PRES. DROP (IN. H2O)                             0.139
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                   89.535
   AVG. METER TEMP. (F)                                         65.
   VOLUME OF DRY GAS SAMPLED (SCF)                              89.452

   TOTAL H2O COLLECTED (ML)                                     30.4
   VOLUME OF H2O COLLECTED (SCF)                                 1.44
   % MOISTURE IN STACK GAS BY VOLUME                             1.59
   MOLE FRACTION OF DRY GAS                                      0.984

   MOLECULAR WEIGHT OF DRY GAS                                   2.00
   MOLECULAR WEIGHT OF STACK GAS                                 2.25

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)               155.6
   AVERAGE STACK GAS TEMPERATURE (F)                            71.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                         39.37
   STACK GAS FLOW RATE (ACFM)                                 1876.
   STACK GAS FLOW RATE (SCFM)                                 2424.

   NET TIME OF TEST (MIN.)                                     120.
   STACK DIAMETER (IN.)                                          6.1
   SAMPLING NOZZEL DIAMETER (IN.)                                0.120
   % ISOKINETIC                                                 78.7

   MERCURY MASS TOTAL (MG)                                      19.9

   MERC. CONC.-TOTAL (GR/SCF)                                    0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                       0.004

   EMISSION RATE-TOTAL- (LB/DAY)                                 1.706


         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGCR,MAINE 9/27/74 17:05 SCA-51


    BAROMETRIC PRESSURE (MM HG)                           752.
    AVG. ORIFICE PRES. DROP (MM H2O)                        3.53
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              2.535
    AVG. METER TEMP. (C)                                   18.3
    VOLUME OF DRY GAS SAMPLED (NM3)                         2.533

    TOTAL H2O COLLECTED (ML)                               30.4
    VOLUME OF H2O COLLECTED (NM3)                           0.041
    % MOISTURE IN STACK GAS BY VOLUME                       1.59
    MOLE FRACTION OF DRY GAS                                0.984

    MOLECULAR WEIGHT OF DRY GAS                             2.00
    MOLECULAR WEIGHT OF STACK GAS                           2.25

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)          47.41
    AVERAGE STACK GAS TEMPERATURE (C)                      21.7
    ABSOLUTE STACK GAS PRESSURE (MM HG)                  1000.
    STACK GAS FLOW RATE (M3/M)                             53.11
    STACK GAS FLOW RATE (NM3/M)                            68.64

    NET TIME OF TEST (MIN.)                               120.
    STACK DIAMETER (M)                                      0.154
    SAMPLING NOZZEL CIAMETER (CM)                           0.305
    % ISOKINETIC                                           78.7

    MERCURY MASS TOTAL (MG)                                19.9

    MERC. CONC.-TOTAL (MG/NM3)                              7.832
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                10.123

    EMISSION RATE-TOTAL- (G/DAY)                          773.99


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                 MERCURY EMISSION DATA REPORT

    EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 20:00 SCA-53

      BAROMETRIC PRESSURE (IN. HG)                          29.65
      AVG. ORIFICE PRES. DROP (IN. H2O)                      0.140
      VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            89.187
      AVG. METER TEMP. (F)                                  65.
      VOLUME OF DRY GAS SAMPLED (SCF)                       89.255

      TOTAL H2O COLLECTED (ML)                              32.5
      VOLUME OF H2O COLLECTED (SCF)                          1.54
      % MOISTURE IN STACK GAS BY VOLUME                      1.70
      MOLE FRACTION OF DRY GAS                               0.983

      MOLECULAR WEIGHT OF DRY GAS                            2.00
      MOLECULAR WEIGHT OF STACK GAS                          2.27

      AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)        155.8
      AVERAGE STACK GAS TEMPERATURE (F)                     71.
      ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.42
      STACK GAS FLOW RATE (ACFM)                          1878.
      STACK GAS FLOW RATE (SCFM)                          2428.

      NET TIME OF TEST (MIN.)                              120.
      STACK DIAMETER (IN.)                                   6.1
      SAMPLING NOZZEL DIAMETER (IN.)                         0.120
      % ISOKINETIC                                          78.5

      MERCURY MASS TOTAL (MG)                               15.3

      MERC. CONC.-TOTAL (GR/SCF)                             0.003
      MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.003

      EMISSION RATE-TOTAL- (LB/DAY)                          1.316

         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 20:00 SCA-53


        BAROMETRIC PRESSURE (MM HG)                           753.
        AVG. ORIFICE PRES. DROP (MM H2O)                        3.56
        VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              2.525
        AVG. METER TEMP. (C)                                   18.3
        VOLUME OF DRY GAS SAMPLED (NM3)                         2.527

        TOTAL H2O COLLECTED (ML)                               32.5
        VOLUME OF H2O COLLECTED (NM3)                           0.044
        % MOISTURE IN STACK GAS BY VOLUME                       1.70
        MOLE FRACTION OF DRY GAS                                0.983

        MOLECULAR WEIGHT OF DRY GAS                             2.00
        MOLECULAR WEIGHT OF STACK GAS                           2.27

        AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)          47.48
        AVERAGE STACK GAS TEMPERATURE (C)                      21.7
        ABSOLUTE STACK GAS PRESSURE (MM HG)                  1001.
        STACK GAS FLOW RATE (M3/M)                             53.18
        STACK GAS FLOW RATE (NM3/M)                            68.74

        NET TIME OF TEST (MIN.)                               120.
        STACK DIAMETER (M)                                      0.154
        SAMPLING NOZZEL DIAMETER (CM)                           0.305
        % ISOKINETIC                                           78.5

        MERCURY MASS TOTAL (MG)                                15.3

        MERC. CONC.-TOTAL (MG/NM3)                              6.033
        MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 7.799

        EMISSION RATE-TOTAL- (G/DAY)                          597.14


               STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                     MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 23:00 SCA-55

    BAROMETRIC PRESSURE (IN. HG)                          29.72
    AVG. ORIFICE PRES. DROP (IN. H2O)                      0.141
    VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            89.139
    AVG. METER TEMP. (F)                                  55.
    VOLUME OF DRY GAS SAMPLED (SCF)                       91.154

    TOTAL H2O COLLECTED (ML)                              23.4
    VOLUME OF H2O COLLECTED (SCF)                          1.11
    % MOISTURE IN STACK GAS BY VOLUME                      1.20
    MOLE FRACTION OF DRY GAS                               0.988

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.19

    AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  161.0
    AVERAGE STACK GAS TEMPERATURE (F)               70.
    ABSOLUTE STACK GAS PRESSURE (IN. HG)            39.49
    STACK GAS FLOW RATE (ACFM)                    1941.
    STACK GAS FLOW RATE (SCFM)                    2531.

    NET TIME OF TEST (MIN.)                        120.
    STACK DIAMETER (IN.)                             6.1
    SAMPLING NOZZEL DIAMETER (IN.)                   0.120
    % ISOKINETIC                                    76.8

    MERCURY MASS TOTAL (MG)                         18.7

    MERC. CONC.-TOTAL (GR/SCF)                       0.003
    MERC. CONC.-TOTAL @ STACK COND. (GR/CF)          0.004

    EMISSION RATE-TOTAL- (LB/DAY)                    1.647

         STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

                    ENGINEERING SCIENCE INC.
                      WASHINGTON, D.C.
                         11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/27/74 23:00 SCA-55


  BAROMETRIC PRESSURE (MM HG)                           755.
  AVG. ORIFICE PRES. DROP (MM H2O)                        3.58
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)              2.524
  AVG. METER TEMP. (C)                                   12.8
  VOLUME OF DRY GAS SAMPLED (NM3)                         2.581

  TOTAL H2O COLLECTED (ML)                               23.4
  VOLUME OF H2O COLLECTED (NM3)                           0.031
  % MOISTURE IN STACK GAS BY VOLUME                       1.20
  MOLE FRACTION OF DRY GAS                                0.988

  MOLECULAR WEIGHT OF DRY GAS                             2.00
  MOLECULAR WEIGHT OF STACK GAS                           2.19

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)          49.08
  AVERAGE STACK GAS TEMPERATURE (C)                      21.1
  ABSOLUTE STACK GAS PRESSURE (MM HG)                  1003.
  STACK GAS FLOW RATE (M3/M)                             54.97
  STACK GAS FLOW RATE (NM3/M)                            71.68

  NET TIME OF TEST (MIN.)                               120.
  STACK DIAMETER (M)                                      0.154
  SAMPLING NOZZEL DIAMETER (CM)                           0.305
  % ISOKINETIC                                           76.8

  MERCURY MASS TOTAL (MG)                                18.7

  MERC. CONC.-TOTAL (MG/NM3)                              7.241
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 9.442

  EMISSION RATE-TOTAL- (G/DAY)                          747.28


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                         MERCURY EMISSICN DATA REPORT

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 02:00 SCA-57


   BARCMETRIC PRESSURE (IN. HG)                            29.71
   AVG. ORIFICE PRES. DROP (IN. H2O)                        0.147
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)              91.882
   AVG. METER TEMP. (F)                                    55.
   VOLUME OF DRY GAS SAMPLED (SCF)                         93.929

   TOTAL H2C COLLECTED (ML)                                20.5
   VOLUME OF H2O CCLLECTED (SCF)                            0.97
   % MOISTURE IN STACK GAS BY VOLUME                        1.02
   MOLE FRACTION OF DRY GAS                                 0.990

   MOLECULAR WEIGHT OF DRY GAS                              2.00
   MOLECULAR WEIGHT OF STACK GAS                            2.16

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)          165.2
   AVERAGE STACK GAS TEMPERATURE (F)                       70.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                    39.68
   STACK GAS FLOW RATE (ACFM)                            1992.
   STACK GAS FLOW RATE (SCFM)                            2615.

   NET TIME OF TEST (MIN.)                                120.
   STACK DIAMETER (IN.)                                     6.1
   SAMPLING NOZZEL CIAMETER (IN.)                           0.120
   % ISOKINETIC                                            76.6

   MERCURY MASS TOTAL (MG)                                 20.40

   MERC. CONC.-TOTAL (GR/SCF)                               0.004
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                  0.004

   EMISSION RATE-TOTAL- (LB/DAY)                            1.80


        STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                           11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 02:00 SCA-57


      BAROMETRIC PRESSURE (MM HG)                          755.
      AVG. ORIFICE PRES. DROP (MM H2O)                       3.73
      VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.602
      AVG. METER TEMP. (C)                                  12.8
      VOLUME OF DRY GAS SAMPLED (NM3)                        2.660

      TOTAL H2O COLLECTED (ML)                              20.5
      VOLUME OF H2O COLLECTED (NM3)                          0.028
      % MOISTURE IN STACK GAS BY VOLUME                      1.02
      MOLE FRACTION OF DRY GAS                               0.990

      MOLECULAR WEIGHT OF DRY GAS                            2.00
      MOLECULAR WEIGHT OF STACK GAS                          2.16

      AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         50.37
      AVERAGE STACK GAS TEMPERATURE (C)                     21.1
      ABSOLUTE STACK GAS PRESSURE (MM HG)                 1008.
      STACK GAS FLOW RATE (M3/M)                            56.42
      STACK GAS FLOW RATE (NM3/M)                           74.05

      NET TIME OF TEST (MIN.)                              120.
      STACK DIAMETER (M)                                     0.154
      SAMPLING NOZZEL DIAMETER (CM)                          0.305
      % ISOKINETIC                                          76.6

      MERCURY MASS TOTAL (MG)                               20.40

      MERC. CONC.-TOTAL (MG/NM3)                             7.652
      MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               10.216

      EMISSION RATE-TOTAL- (G/DAY)                         816.00


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 05:00 SCA-59


   BAROMETRIC PRESSURE (IN. HG)                          29.75
   AVG. ORIFICE PRES. DROP (IN. H2O)                      0.148
   VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            91.685
   AVG. METER TEMP. (F)                                  58.
   VOLUME OF DRY GAS SAMPLED (SCF)                       93.310

   TOTAL H2O COLLECTED (ML)                              30.2
   VOLUME OF H2O COLLECTED (SCF)                          1.43
   % MOISTURE IN STACK GAS BY VOLUME                      1.51
   MOLE FRACTION OF DRY GAS                               0.985

   MOLECULAR WEIGHT OF DRY GAS                            2.00
   MOLECULAR WEIGHT OF STACK GAS                          2.24

   AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  163.4
   AVERAGE STACK GAS TEMPERATURE (F)                     70.
   ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.52
   STACK GAS FLOW RATE (ACFM)                          1970.
   STACK GAS FLOW RATE (SCFM)                          2563.

   NET TIME OF TEST (MIN.)                              120.
   STACK DIAMETER (IN.)                                   6.1
   SAMPLING NOZZEL CIAMETER (IN.)                         0.120
   % ISOKINETIC                                          77.7

   MERCURY MASS TOTAL (MG)                               17.3

   MERC. CONC.-TOTAL (GR/SCF)                             0.003
   MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.004

   EMISSION RATE-TOTAL- (LB/DAY)                          1.502


       STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

                       ENGINEERING SCIENCE INC.
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                              11/14/74
                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 05:00 SCA-59


     BAROMETRIC PRESSURE (MM HG)                            756.
     AVG. ORIFICE PRES. DROP (MM H2O)                         3.76
     VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.596
     AVG. METER TEMP. (C)                                   14.4
     VOLUME OF DRY GAS SAMPLED (NM3)                          2.642

     TOTAL H2O COLLECTED (ML)                               30.2
     VOLUME OF H2O COLLECTED (NM3)                            0.041
     % MOISTURE IN STACK GAS BY VOLUME                        1.51
     MOLE FRACTION OF DRY GAS                                 0.985

     MOLECULAR WEIGHT OF DRY GAS                              2.00
     MOLECULAR WEIGHT OF STACK GAS                            2.24

     AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           49.81
     AVERAGE STACK GAS TEMPERATURE (C)                       21.1
     ABSOLUTE STACK GAS PRESSURE (MM HG)                   1004.
     STACK GAS FLOW RATE (M3/M)                              55.79
     STACK GAS FLOW RATE (NM3/M)                             72.57

     NET TIME OF TEST (MIN.)                                120.
     STACK DIAMETER (M)                                       0.154
     SAMPLING NOZZEL DIAMETER (CM)                            0.305
     % ISOKINETIC                                            77.7

     MERCURY MASS TOTAL (MG)                                 17.3

     MERC. CONC.-TOTAL (MG/NM3)                               6.522
     MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  8.485

     EMISSION RATE-TOTAL- (G/DAY)                           681.48


            STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                     MERCURY EMISSION DATA REPORT

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 08:00 SCA-61


     BAROMETRIC PRESSURE (IN. HG)                          29.75
     AVG. ORIFICE PRES. DROP (IN. H2O)                      0.148
     VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            91.728
     AVG. METER TEMP. (F)                                  61.
     VOLUME OF DRY GAS SAMPLED (SCF)                       92.816

     TOTAL H2O COLLECTED (ML)                              37.8
     VOLUME OF H2O COLLECTED (SCF)                          1.79
     % MOISTURE IN STACK GAS BY VOLUME                      1.89
     MOLE FRACTION OF DRY GAS                               0.981

     MOLECULAR WEIGHT OF DRY GAS                            2.00
     MOLECULAR WEIGHT OF STACK GAS                          2.30

     AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)        160.6
     AVERAGE STACK GAS TEMPERATURE (F)                     70.
     ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.52
     STACK GAS FLOW RATE (ACFM)                          1937.
     STACK GAS FLOW RATE (SCFM)                          2509.

     NET TIME OF TEST (MIN.)                              120.
     STACK DIAMETER (IN.)                                   6.1
     SAMPLING NOZZEL DIAMETER (IN.)                         0.120
     % ISOKINETIC                                          78.9

     MERCURY MASS TOTAL (MG)                               18.1

     MERC. CONC.-TOTAL (GR/SCF)                             0.003
     MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.004

     EMISSION RATE-TOTAL- (LB/DAY)                          1.551


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 08:00 SCA-61


  BAROMETRIC PRESSURE (MM HG)                          756.
  AVG. ORIFICE PRES. DROP (MM H2O)                       3.76
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.597
  AVG. METER TEMP. (C)                                 16.1
  VOLUME OF DRY GAS SAMPLED (NM3)                        2.628

  TOTAL H2O COLLECTED (ML)                             37.8
  VOLUME OF H2O COLLECTED (NM3)                          0.051
  % MOISTURE IN STACK GAS BY VOLUME                      1.89
  MOLE FRACTION OF DRY GAS                               0.981

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.30

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        48.95
  AVERAGE STACK GAS TEMPERATURE (C)                    21.1
  ABSOLUTE STACK GAS PRESSURE (MM HG)                1004.
  STACK GAS FLOW RATE (M3/M)                           54.83
  STACK GAS FLOW RATE (NM3/M)                          71.05

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (M)                                     0.154
  SAMPLING NOZZEL DIAMETER (CM)                          0.305
  % ISOKINETIC                                         78.9

  MERCURY MASS TOTAL (MG)                              18.1

  MERC. CONC.-TOTAL (MG/NM3)                             6.876
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                8.910

  EMISSION RATE-TOTAL- (G/DAY)                         703.39


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 11:00 SCA-63


    BAROMETRIC PRESSURE (IN. HG)                             29.75
    AVG. ORIFICE PRES. DROP (IN. H2O)                         0.149
    VOLUME OF DRY GAS SAMPLED, METER COND.(CF)               91.853
    AVG. METER TEMP. (F)                                     64.
    VOLUME OF DRY GAS SAMPLED (SCF)                          92.411

    TOTAL H2O COLLECTED (ML)                                 34.6
    VOLUME OF H2O COLLECTED (SCF)                             1.64
    % MOISTURE IN STACK GAS BY VOLUME                         1.74
    MOLE FRACTION OF DRY GAS                                  0.983

    MOLECULAR WEIGHT OF DRY GAS                               2.00
    MOLECULAR WEIGHT OF STACK GAS                             2.28

    AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)           161.2
    AVERAGE STACK GAS TEMPERATURE (F)                        71.
    ABSOLUTE STACK GAS PRESSURE (IN. HG)                     39.72
    STACK GAS FLOW RATE (ACFM)                             1944.
    STACK GAS FLOW RATE (SCFM)                             2531.

    NET TIME OF TEST (MIN.)                                 120.
    STACK DIAMETER (IN.)                                      6.1
    SAMPLING NOZZEL DIAMETER (IN.)                            0.120
    % ISOKINETIC                                             77.9

    MERCURY MASS TOTAL (MG)                                  20.4

    MERC. CONC.-TOTAL (GR/SCF)                                0.003
    MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                   0.004

    EMISSION RATE-TOTAL- (LB/DAY)                             1.767


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 11:00 SCA-63


   BAROMETRIC PRESSURE (MM HG)                              756.
   AVG. ORIFICE PRES. DROP (MM H2O)                           3.78
   VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                 2.601
   AVG. METER TEMP. (C)                                     17.8
   VOLUME OF DRY GAS SAMPLED (NM3)                            2.617

   TOTAL H2O COLLECTED (ML)                                 34.6
   VOLUME OF H2O COLLECTED (NM3)                              0.046
   % MOISTURE IN STACK GAS BY VOLUME                          1.74
   MOLE FRACTION OF DRY GAS                                   0.983

   MOLECULAR WEIGHT OF DRY GAS                                2.00
   MOLECULAR WEIGHT OF STACK GAS                              2.28

   AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)             49.14
   AVERAGE STACK GAS TEMPERATURE (C)                         21.6
   ABSOLUTE STACK GAS PRESSURE (MM HG)                     1009.
   STACK GAS FLOW RATE (M3/M)                                55.05
   STACK GAS FLOW RATE (NM3/M)                               71.68

   NET TIME OF TEST (MIN.)                                  120.
   STACK DIAMETER (M)                                         0.154
   SAMPLING NOZZEL DIAMETER (CM)                              0.305
   % ISOKINETIC                                              77.9

   MERCURY MASS TOTAL (MG)                                   20.4

   MERC. CONC.-TOTAL (MG/NM3)                                 7.768
   MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                   10.116

   EMISSION RATE-TOTAL- (G/DAY)                             801.68


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 14:00 SCA-65

      BAROMETRIC PRESSURE (IN. HG)                           29.74
      AVG. ORIFICE PRES. DROP (IN. H2O)                       0.144
      VOLUME OF DRY GAS SAMPLED, METER COND.(CF)             91.082
      AVG. METER TEMP. (F)                                   68.
      VOLUME OF DRY GAS SAMPLED (SCF)                        90.909

      TOTAL H2O COLLECTED (ML)                               31.0
      VOLUME OF H2O COLLECTED (SCF)                           1.47
      % MOISTURE IN STACK GAS BY VOLUME                       1.59
      MOLE FRACTION OF DRY GAS                                0.984

      MOLECULAR WEIGHT OF DRY GAS                             2.00
      MOLECULAR WEIGHT OF STACK GAS                           2.25

      AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)         158.6
      AVERAGE STACK GAS TEMPERATURE (F)                      71.
      ABSOLUTE STACK GAS PRESSURE (IN. HG)                   39.71
      STACK GAS FLOW RATE (ACFM)                           1912.
      STACK GAS FLOW RATE (SCFM)                           2493.

      NET TIME OF TEST (MIN.)                               120.
      STACK DIAMETER (IN.)                                    6.1
      SAMPLING NOZZEL DIAMETER (IN.)                          0.120
      % ISOKINETIC                                           77.8

      MERCURY MASS TOTAL (MG)                                22.9

      MERC. CONC.-TOTAL (GR/SCF)                              0.004
      MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                 0.005

      EMISSION RATE-TOTAL- (LB/DAY)                           1.985


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

  EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 14:00 SCA-65


      BAROMETRIC PRESSURE (MM HG)                            755.
      AVG. ORIFICE PRES. DROP (MM H2O)                         3.66
      VOLUME OF DRY GAS SAMPLED, METER COND.(M3)               2.579
      AVG. METER TEMP. (C)                                    20.0
      VOLUME OF DRY GAS SAMPLED (NM3)                          2.574

      TOTAL H2O COLLECTED (ML)                                31.0
      VOLUME OF H2O COLLECTED (NM3)                            0.042
      % MOISTURE IN STACK GAS BY VOLUME                        1.59
      MOLE FRACTION OF DRY GAS                                 0.984

      MOLECULAR WEIGHT OF DRY GAS                              2.00
      MOLECULAR WEIGHT OF STACK GAS                            2.25

      AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)           48.34
      AVERAGE STACK GAS TEMPERATURE (C)                       21.7
      ABSOLUTE STACK GAS PRESSURE (MM HG)                   1009.
      STACK GAS FLOW RATE (M3/M)                              54.15
      STACK GAS FLOW RATE (NM3/M)                             70.58

      NET TIME OF TEST (MIN.)                                120.
      STACK DIAMETER (M)                                       0.154
      SAMPLING NOZZEL DIAMETER (CM)                            0.305
      % ISOKINETIC                                            77.8

      MERCURY MASS TOTAL (MG)                                 22.9

      MERC. CONC.-TOTAL (MG/NM3)                               8.858
      MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                 11.547

      EMISSION RATE-TOTAL- (G/DAY)                           900.17


         STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                 MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 17:05 SCA-67


  BAROMETRIC PRESSURE (IN. HG)                         29.67
  AVG. ORIFICE PRES. DROP (IN. H2O)                     0.142
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)           90.809
  AVG. METER TEMP. (F)                                 64.
  VOLUME OF DRY GAS SAMPLED (SCF)                      91.113

  TOTAL H2O COLLECTED (ML)                             32.6
  VOLUME OF H2O COLLECTED (SCF)                         1.55
  % MOISTURE IN STACK GAS BY VOLUME                     1.67
  MOLE FRACTION OF DRY GAS                              0.983

  MOLECULAR WEIGHT OF DRY GAS                           2.00
  MOLECULAR WEIGHT OF STACK GAS                         2.27

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  157.3
  AVERAGE STACK GAS TEMPERATURE (F)               71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)            39.44
  STACK GAS FLOW RATE (ACFM)                    1897.
  STACK GAS FLOW RATE (SCFM)                    2454.

  NET TIME OF TEST (MIN.)                        120.
  STACK DIAMETER (IN.)                             6.1
  SAMPLING NOZZEL DIAMETER (IN.)                   0.120
  % ISOKINETIC                                    79.2

  MERCURY MASS TOTAL (MG)                         26.7

  MERC. CONC.-TOTAL (GR/SCF)                       0.005
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)          0.006

  EMISSION RATE-TOTAL- (LB/DAY)                    2.279


          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                        METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 17:05 SCA-67


    BAROMETRIC PRESSURE (MM HG)                          754.
    AVG. ORIFICE PRES. DROP (MM H2O)                       3.61
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.571
    AVG. METER TEMP. (C)                                  17.8
    VOLUME OF DRY GAS SAMPLED (NM3)                        2.580

    TOTAL H2O COLLECTED (ML)                              32.6
    VOLUME OF H2O COLLECTED (NM3)                          0.044
    % MOISTURE IN STACK GAS BY VOLUME                      1.67
    MOLE FRACTION OF DRY GAS                               0.983

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.27

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         47.96
    AVERAGE STACK GAS TEMPERATURE (C)                     21.7
    ABSOLUTE STACK GAS PRESSURE (MM HG)                 1002.
    STACK GAS FLOW RATE (M3/M)                            53.72
    STACK GAS FLOW RATE (NM3/M)                           69.49

    NET TIME OF TEST (MIN.)                              120.
    STACK DIAMETER (M)                                     0.154
    SAMPLING NOZZEL DIAMETER (CM)                          0.305
    % ISOKINETIC                                          79.2

    MERCURY MASS TOTAL (MG)                               26.7

    MERC. CONC.-TOTAL (MG/NM3)                            10.331
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               13.366

    EMISSION RATE-TOTAL- (G/DAY)                        1033.61


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

 EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 20:00 SCA-69


  BAROMETRIC PRESSURE (IN. HG)                          29.65
  AVG. ORIFICE PRES. DROP (IN. H2O)                      0.142
  VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            89.786
  AVG. METER TEMP. (F)                                  63.
  VOLUME OF DRY GAS SAMPLED (SCF)                       90.198

  TOTAL H2O COLLECTED (ML)                              32.2
  VOLUME OF H2O COLLECTED (SCF)                          1.53
  % MOISTURE IN STACK GAS BY VOLUME                      1.66
  MOLE FRACTION OF DRY GAS                               0.983

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.27

  AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  157.3
  AVERAGE STACK GAS TEMPERATURE (F)                 71.
  ABSOLUTE STACK GAS PRESSURE (IN. HG)              39.42
  STACK GAS FLOW RATE (ACFM)                     1896.
  STACK GAS FLOW RATE (SCFM)                     2452.

  NET TIME OF TEST (MIN.)                         120.
  STACK DIAMETER (IN.)                               6.1
  SAMPLING NOZZEL DIAMETER (IN.)                     0.120
  % ISOKINETIC                                      78.5

  MERCURY MASS TOTAL (MG)                           22.4

  MERC. CONC.-TOTAL (GR/SCF)                         0.004
  MERC. CONC.-TOTAL @ STACK COND. (GR/CF)            0.005

  EMISSION RATE-TOTAL- (LB/DAY)                      1.925


       STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 20:00 SCA-69

    BAROMETRIC PRESSURE (MM HG)                          753.
    AVG. ORIFICE PRES. DROP (MM H2O)                       3.61
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.542
    AVG. METER TEMP. (C)                                  17.2
    VOLUME OF DRY GAS SAMPLED (NM3)                        2.554

    TOTAL H2O COLLECTED (ML)                              32.2
    VOLUME OF H2O COLLECTED (NM3)                          0.043
    % MOISTURE IN STACK GAS BY VOLUME                      1.66
    MOLE FRACTION OF DRY GAS                               0.983

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.27

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         47.94
    AVERAGE STACK GAS TEMPERATURE (C)                     21.7
    ABSOLUTE STACK GAS PRESSURE (MM HG)                 1001.
    STACK GAS FLOW RATE (M3/M)                            53.70
    STACK GAS FLOW RATE (NM3/M)                           69.43

    NET TIME OF TEST (MIN.)                              120.
    STACK DIAMETER (M)                                     0.154
    SAMPLING NOZZEL DIAMETER (CM)                          0.305
    % ISOKINETIC                                          78.5

    MERCURY MASS TOTAL (MG)                               22.4

    MERC. CONC.-TOTAL (MG/NM3)                             8.736
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               11.297

    EMISSION RATE-TOTAL- (G/DAY)                         873.34


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 23:00 SCA-71

    BAROMETRIC PRESSURE (IN. HG)                          29.63
    AVG. ORIFICE PRES. DROP (IN. H2O)                      0.142
    VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            89.947
    AVG. METER TEMP. (F)                                  63.
    VOLUME OF DRY GAS SAMPLED (SCF)                       90.299

    TOTAL H2O COLLECTED (ML)                              34.3
    VOLUME OF H2O COLLECTED (SCF)                          1.63
    % MOISTURE IN STACK GAS BY VOLUME                      1.77
    MOLE FRACTION OF DRY GAS                               0.982

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.28

    AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  156.7
    AVERAGE STACK GAS TEMPERATURE (F)                71.
    ABSOLUTE STACK GAS PRESSURE (IN. HG)             39.47
    STACK GAS FLOW RATE (ACFM)                     1889.
    STACK GAS FLOW RATE (SCFM)                     2443.

    NET TIME OF TEST (MIN.)                         120.
    STACK DIAMETER (IN.)                              6.1
    SAMPLING NOZZEL DIAMETER (IN.)                    0.120
    % ISOKINETIC                                     78.9

    MERCURY MASS TOTAL (MG)                          26.9

    MERC. CONC.-TOTAL (GR/SCF)                        0.005
    MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.006

    EMISSION RATE-TOTAL- (LB/DAY)                     2.305

          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                 MERCURY EMISSION DATA REPORT
                         METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/28/74 23:00 SCA-71


  BAROMETRIC PRESSURE (MM HG)                          753.
  AVG. ORIFICE PRES. DROP (MM H2O)                       3.61
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.547
  AVG. METER TEMP. (C)                                  17.2
  VOLUME OF DRY GAS SAMPLED (NM3)                        2.557

  TOTAL H2O COLLECTED (ML)                              34.3
  VOLUME OF H2O COLLECTED (NM3)                          0.046
  % MOISTURE IN STACK GAS BY VOLUME                      1.77
  MOLE FRACTION OF DRY GAS                               0.982

  MOLECULAR WEIGHT OF DRY GAS                            2.00
  MOLECULAR WEIGHT OF STACK GAS                          2.28

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         47.75
  AVERAGE STACK GAS TEMPERATURE (C)                     21.7
  ABSOLUTE STACK GAS PRESSURE (MM HG)                 1003.
  STACK GAS FLOW RATE (M3/M)                            53.49
  STACK GAS FLOW RATE (NM3/M)                           69.17

  NET TIME OF TEST (MIN.)                              120.
  STACK DIAMETER (M)                                     0.154
  SAMPLING NOZZEL DIAMETER (CM)                          0.305
  % ISOKINETIC                                          78.9

  MERCURY MASS TOTAL (MG)                               26.9

  MERC. CONC.-TOTAL (MG/NM3)                            10.498
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               13.578

  EMISSION RATE-TOTAL- (G/DAY)                        1045.57


       STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 02:00 SCA-73

      BAROMETRIC PRESSURE (IN. HG)                         29.56
      AVG. ORIFICE PRES. DROP (IN. H2O)                     0.142
      VOLUME OF DRY GAS SAMPLED, METER COND.(CF)           91.229
      AVG. METER TEMP. (F)                                 63.
      VOLUME OF DRY GAS SAMPLED (SCF)                      91.370

      TOTAL H2O COLLECTED (ML)                             39.5
      VOLUME OF H2O COLLECTED (SCF)                         1.87
      % MOISTURE IN STACK GAS BY VOLUME                     2.01
      MOLE FRACTION OF DRY GAS                              0.980

      MOLECULAR WEIGHT OF DRY GAS                           2.00
      MOLECULAR WEIGHT OF STACK GAS                         2.32

      AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  155.0
      AVERAGE STACK GAS TEMPERATURE (F)                71.
      ABSOLUTE STACK GAS PRESSURE (IN. HG)             39.53
      STACK GAS FLOW RATE (ACFM)                     1868.
      STACK GAS FLOW RATE (SCFM)                     2414.

      NET TIME OF TEST (MIN.)                         120.
      STACK DIAMETER (IN.)                              6.1
      SAMPLING NOZZEL DIAMETER (IN.)                    0.120
      % ISOKINETIC                                     80.8

      MERCURY MASS TOTAL (MG)                          25.3

      MERC. CONC.-TOTAL (GR/SCF)                        0.004
      MERC. CONC.-TOTAL @ STACK COND. (GR/CF)           0.006

      EMISSION RATE-TOTAL- (LB/DAY)                     2.116

           STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                MERCURY EMISSION DATA REPORT
                       METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 02:00 SCA-73


     BAROMETRIC PRESSURE (MM HG)                          751.
     AVG. ORIFICE PRES. DROP (MM H2O)                       3.61
     VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.583
     AVG. METER TEMP. (C)                                  17.2
     VOLUME OF DRY GAS SAMPLED (NM3)                        2.587

     TOTAL H2O COLLECTED (ML)                              39.5
     VOLUME OF H2O COLLECTED (NM3)                          0.053
     % MOISTURE IN STACK GAS BY VOLUME                      2.01
     MOLE FRACTION OF DRY GAS                               0.980

     MOLECULAR WEIGHT OF DRY GAS                            2.00
     MOLECULAR WEIGHT OF STACK GAS                          2.32

     AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         47.23
     AVERAGE STACK GAS TEMPERATURE (C)                     21.7
     ABSOLUTE STACK GAS PRESSURE (MM HG)                 1004.
     STACK GAS FLOW RATE (M3/M)                            52.91
     STACK GAS FLOW RATE (NM3/M)                           68.36

     NET TIME OF TEST (MIN.)                              120.
     STACK DIAMETER (M)                                     0.154
     SAMPLING NOZZEL DIAMETER (CM)                          0.305
     % ISOKINETIC                                          80.8

     MERCURY MASS TOTAL (MG)                               25.3

     MERC. CONC.-TOTAL (MG/NM3)                             9.750
     MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               12.600

     EMISSION RATE-TOTAL- (G/DAY)                         959.67


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                    MERCURY EMISSION DATA REPORT

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 05:00 SCA-75

     BAROMETRIC PRESSURE (IN. HG)                          29.47
     AVG. ORIFICE PRES. DROP (IN. H2O)                      0.139
     VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            88.561
     AVG. METER TEMP. (F)                                  65.
     VOLUME OF DRY GAS SAMPLED (SCF)                       88.090

     TOTAL H2O COLLECTED (ML)                              31.0
     VOLUME OF H2O COLLECTED (SCF)                          1.47
     % MOISTURE IN STACK GAS BY VOLUME                      1.64
     MOLE FRACTION OF DRY GAS                               0.984

     MOLECULAR WEIGHT OF DRY GAS                            2.00
     MOLECULAR WEIGHT OF STACK GAS                          2.26

     AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)        155.2
     AVERAGE STACK GAS TEMPERATURE (F)                     71.
     ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.44
     STACK GAS FLOW RATE (ACFM)                          1871.
     STACK GAS FLOW RATE (SCFM)                          2419.

     NET TIME OF TEST (MIN.)                              120.
     STACK DIAMETER (IN.)                                   6.1
     SAMPLING NOZZEL DIAMETER (IN.)                         0.120
     % ISOKINETIC                                          77.7

     MERCURY MASS TOTAL (MG)                               23.9

     MERC. CONC.-TOTAL (GR/SCF)                             0.004
     MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                0.005

     EMISSION RATE-TOTAL- (LB/DAY)                          2.082

          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                MERCURY EMISSICN DATA REPORT
                       METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 05:00 SCA-75


  BAROMETRIC PRESSURE (MM HG)                              749.
  AVG. ORIFICE PRES. DROP (MM H2O)                           3.53
  VOLUME OF DRY GAS SAMPLED, METER COND.(M3)                 2.508
  AVG. METER TEMP. (C)                                     18.3
  VOLUME OF DRY GAS SAMPLED (NM3)                            2.494

  TOTAL H2O COLLECTED (ML)                                 31.0
  VOLUME OF H2O COLLECTED (NM3)                              0.042
  % MOISTURE IN STACK GAS BY VOLUME                          1.64
  MOLE FRACTION OF DRY GAS                                   0.984

  MOLECULAR WEIGHT OF DRY GAS                                2.00
  MOLECULAR WEIGHT OF STACK GAS                              2.26

  AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)            47.29
  AVERAGE STACK GAS TEMPERATURE (C)                        21.9
  ABSOLUTE STACK GAS PRESSURE (MM HG)                    1002.
  STACK GAS FLOW RATE (M3/M)                               52.97
  STACK GAS FLOW RATE (NM3/M)                              68.50

  NET TIME OF TEST (MIN.)                                  120.
  STACK DIAMETER (M)                                         0.154
  SAMPLING NOZZEL DIAMETER (CM)                              0.305
  % ISOKINETIC                                             77.7

  MERCURY MASS TOTAL (MG)                                  23.9

  MERC. CONC.-TOTAL (MG/NM3)                                 9.573
  MERC. CONC.-TOTAL @ STACK COND. (MG/M3)                  12.381

  EMISSION RATE-TOTAL- (G/DAY)                             944.22


        STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG


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                     MERCURY EMISSION DATA REPORT

      EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 08:00 SCA-77


       BAROMETRIC PRESSURE (IN. HG)                              29.45
       AVG. ORIFICE PRES. DROP (IN. H2O)                          0.138
       VOLUME OF DRY GAS SAMPLED, METER COND.(CF)               89.170
       AVG. METER TEMP. (F)                                      65.
       VOLUME OF DRY GAS SAMPLED (SCF)                          88.636

       TOTAL H2O COLLECTED (ML)                                  38.2
       VOLUME OF H2O COLLECTED (SCF)                              1.81
       % MOISTURE IN STACK GAS BY VOLUME                          2.00
       MOLE FRACTION OF DRY GAS                                   0.980

       MOLECULAR WEIGHT OF DRY GAS                                2.00
       MOLECULAR WEIGHT OF STACK GAS                              2.32

       AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            152.5
       AVERAGE STACK GAS TEMPERATURE (F)                         71.
       ABSOLUTE STACK GAS PRESSURE (IN. HG)                      39.42
       STACK GAS FLOW RATE (ACFM)                              1838.
       STACK GAS FLOW RATE (SCFM)                              2369.

       NET TIME OF TEST (MIN.)                                  120.
       STACK DIAMETER (IN.)                                       6.1
       SAMPLING NOZZEL DIAMETER (IN.)                             0.120
       % ISOKINETIC                                              79.9

       MERCURY MASS TOTAL (MG)                                   25.6

       MERC. CONC.-TOTAL (GR/SCF)                                 0.004
       MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.006

       EMISSION RATE-TOTAL- (LB/DAY)                              2.171


            STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                    MERCURY EMISSION DATA REPORT
                           METRIC SYSTEM

   EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 08:00 SCA-77


    BAROMETRIC PRESSURE (MM HG)                          748.
    AVG. ORIFICE PRES. DROP (MM H2O)                       3.51
    VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.525
    AVG. METER TEMP. (C)                                 18.3
    VOLUME OF DRY GAS SAMPLED (NM3)                        2.510

    TOTAL H2O COLLECTED (ML)                             38.2
    VOLUME OF H2O COLLECTED (NM3)                          0.051
    % MOISTURE IN STACK GAS BY VOLUME                      2.00
    MOLE FRACTION OF DRY GAS                               0.980

    MOLECULAR WEIGHT OF DRY GAS                            2.00
    MOLECULAR WEIGHT OF STACK GAS                          2.32

    AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        46.47
    AVERAGE STACK GAS TEMPERATURE (C)                    21.7
    ABSOLUTE STACK GAS PRESSURE (MM HG)                1001.
    STACK GAS FLOW RATE (M3/M)                           52.05
    STACK GAS FLOW RATE (NM3/M)                          67.07

    NET TIME OF TEST (MIN.)                             120.
    STACK DIAMETER (M)                                     0.154
    SAMPLING NOZZEL DIAMETER (CM)                          0.305
    % ISOKINETIC                                         79.9

    MERCURY MASS TOTAL (MG)                              25.6

    MERC. CONC.-TOTAL (MG/NM3)                           10.198
    MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              13.142

    EMISSION RATE-TOTAL- (G/DAY)                         984.81


          STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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                    MERCURY EMISSION DATA REPORT

     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 11:00 SCA-79

      BAROMETRIC PRESSURE (IN. HG)                          29.23
      AVG. ORIFICE PRES. DROP (IN. H2O)                      0.135
      VOLUME OF DRY GAS SAMPLED, METER COND.(CF)            87.711
      AVG. METER TEMP. (F)                                  66.
      VOLUME OF DRY GAS SAMPLED (SCF)                       86.369

      TOTAL H2O COLLECTED (ML)                              30.4
      VOLUME OF H2O COLLECTED (SCF)                          1.44
      % MOISTURE IN STACK GAS BY VOLUME                      1.64
      MOLE FRACTION OF DRY GAS                               0.984

      MOLECULAR WEIGHT OF DRY GAS                            2.00
      MOLECULAR WEIGHT OF STACK GAS                          2.26

      AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)  153.3
      AVERAGE STACK GAS TEMPERATURE (F)                     71.
      ABSOLUTE STACK GAS PRESSURE (IN. HG)                  39.20
      STACK GAS FLOW RATE (ACFM)                          1848.
      STACK GAS FLOW RATE (SCFM)                          2376.

      NET TIME OF TEST (MIN.)                              120.
      STACK DIAMETER (IN.)                                   6.1
      SAMPLING NOZZEL DIAMETER (IN.)                         0.120
      % ISOKINETIC                                          77.6

      MERCURY MASS TOTAL (MG)                               21.5

      MERC. CONC.-TOTAL (GR/SCF)                             0.004
      MERC. CONC.-TOTAL a STACK COND. (GR/CF)                0.005

      EMISSION RATE-TOTAL- (LB/DAY)                          1.874

          STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                           METRIC SYSTEM

    EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 11:00 SCA-79

      BAROMETRIC PRESSURE (MM HG)                          742.
      AVG. ORIFICE PRES. DROP (MM H2O)                       3.43
      VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.484
      AVG. METER TEMP. (C)                                 18.9
      VOLUME OF DRY GAS SAMPLED (NM3)                        2.446

      TOTAL H2O COLLECTED (ML)                             30.4
      VOLUME OF H2O COLLECTED (NM3)                          0.041
      % MOISTURE IN STACK GAS BY VOLUME                      1.64
      MOLE FRACTION OF DRY GAS                               0.984

      MOLECULAR WEIGHT OF DRY GAS                            2.00
      MOLECULAR WEIGHT OF STACK GAS                          2.26

      AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)        46.71
      AVERAGE STACK GAS TEMPERATURE (C)                    21.7
      ABSOLUTE STACK GAS PRESSURE (MM HG)                 996.
      STACK GAS FLOW RATE (M3/M)                           52.32
      STACK GAS FLOW RATE (NM3/M)                          67.29

      NET TIME OF TEST (MIN.)                             120.
      STACK DIAMETER (M)                                     0.154
      SAMPLING NOZZEL DIAMETER (CM)                          0.305
      % ISOKINETIC                                         77.6

      MERCURY MASS TOTAL (MG)                              21.5

      MERC. CONC.-TOTAL (MG/NM3)                             8.772
      MERC. CONC.-TOTAL @ STACK COND. (MG/M3)              11.283

      EMISSION RATE-TOTAL- (G/DAY)                         849.94


           STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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     EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 15:05 SCA-81


        BARCMETRIC PRESSURE (IN. HG)                              29.16
        AVG. ORIFICE PRES. DROP (IN. H2O)                          0.135
        VOLUME OF DRY GAS SAMPLED, METER COND.(CF)                86.983
        AVG. METER TEMP. (F)                                      66.
        VOLUME OF DRY GAS SAMPLED (SCF)                           85.447

        TOTAL H2O COLLECTED (ML)                                  34.8
        VOLUME OF H2O CCLLECTED (SCF)                              1.65
        % MOISTURE IN STACK GAS BY VOLUME                          1.89
        MOLE FRACTION CF DRY GAS                                   0.981

        MOLECULAR WEIGHT OF DRY GAS                                2.00
        MOLECULAR WEIGHT OF STACK GAS                              2.30

        AVERAGE STACK GAS VELOCITY, STACK COND. (FPS)            151.6
        AVERAGE STACK GAS TEMPERATURE (F)                         71.
        ABSCLUTE STACK GAS PRESSURE (IN. HG)                      39.13
        STACK GAS FLCW RATE (ACFM)                              1827.
        STACK GAS FLCW RATE (SCFM)                              2340.

        NET TIME OF TEST (MIN.)                                  120.
        STACK DIAMETER (IN.)                                       6.1
        SAMPLING NOZZEL CIAMETER (IN.)                             0.120
        % ISOKINETIC                                              77.9

        MERCURY MASS TOTAL (MG)                                   23.0

        MERC. CONC.-TOTAL (GR/SCF)                                 0.004
        MERC. CONC.-TOTAL @ STACK COND. (GR/CF)                    0.005

        EMISSION RATE-TOTAL- (LB/DAY)                              1.956


            STANDARD CONDITIONS  *70 DEG F  *29.92 IN. HG

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                  MERCURY EMISSION DATA REPORT
                         METRIC SYSTEM

EPA STACK TESTING-SOBIN  BANGOR,MAINE 9/29/74 15:05 SCA-81


 BARCMETRIC PRESSURE (MM HG)                          741.
 AVG. ORIFICE PRES. DROP (MM H20)                       3.43
 VOLUME OF DRY GAS SAMPLED, METER COND.(M3)             2.463
 AVG. METER TEMP. (C)                                  18.9
 VOLUME OF DRY GAS SAMPLED (NM3)                        2.420

 TOTAL H20 COLLECTED (ML)                              34.8
 VOLUME OF H20 COLLECTED (NM3)                          0.047
 % MOISTURE IN STACK GAS BY VOLUME                      1.89
 MOLE FRACTION OF DRY GAS                               0.981

 MOLECULAR WEIGHT OF CRY GAS                            2.00
 MOLECULAR WEIGHT OF STACK GAS                          2.30

 AVERAGE STACK GAS VELOCITY, STACK COND. (MPS)         46.20
 AVERAGE STACK GAS TEMPERATURE (C)                     21.7
 ABSCLUTE STACK GAS PRESSURE (MM HG)                  994.
 STACK GAS FLCW RATE (M3/M)                            51.75
 STACK GAS FLOW RATE (NM3/M)                           66.26

 NET TIME OF TEST (MIN.)                              120.
 STACK DIAMETER (M)                                     0.154
 SAMPLING NOZZEL CIAMETER (CM)                          0.305
 % ISOKINETIC                                          77.9

 MERCURY MASS TOTAL (MG)                               23.0

 MERC. CONC.-TOTAL (MG/NM3)                             9.490
 MERC. CONC.-TOTAL @ STACK COND. (MG/M3)               12.153

 EMISSION RATE-TOTAL- (G/CAY)                         905.36


           STANDARD CONDITIONS  *21.1 DEG C  *760 MM HG

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APPENDIX F

EPA REFERENCE METHOD 102

V_t = Total volume of condensed moisture and ICl in sample bottle, ml.
C_t = Concentration of mercury measured in sample bottle, $\mu g/ml$.
V_b = Total volume of ICl used in sampling (impinger contents and all wash amounts), ml.
C_b = Blank concentration of mercury in ICl solution, $\mu g/ml$.
V_f = Total volume of ICl used in filter bottle (if used), ml.
C_f = Concentration of mercury in filter bottle (if used), $\mu g/ml$.

6.7 Total mercury emission. Calculate the total amount of mercury emitted from each stack per day by equation 101-7. This equation is applicable for continuous operations. For cyclic operations, use only the time per day each stack is in operation. The total mercury emissions from a source will be the summation of results from all stacks.

$$R=\frac{W_t (v_s)_{avg.} A_s}{V_{total}} \times \frac{86{,}400 \text{ seconds/day}}{10^6 \ \mu g/g.} \qquad \text{eq. 101-7}$$

where:
R = Rate of emission, g/day.
W_t = Total weight of mercury collected, μg.
V_{total} = Total volume of gas sample (stack conditions), ft^3.
$(v_s)_{avg.}$ = Average stack gas velocity, feet per second.
A_s = Stack area, ft^2.

6.8 Isokinetic variation (comparison of velocity of gas in probe tip to stack velocity).

$$I=\frac{100 V_{total}}{A_n \Theta (v_s)_{avg.}} \qquad \text{eq. 101-8}$$

where:
I = Percent of isokinetic sampling.
V_{total} = Total volume of gas sample (stack conditions), ft^3.
A_n = Probe tip area, ft^2.
Θ = Sampling time, sec.
$(v_s)_{avg.}$ = Average stack gas velocity, feet per second.

7. *Evaluation of results*—7.1 *Determination of compliance*.—7.1.1 Each performance test shall consist of three repetitions of the applicable test method. For the purpose of determining compliance with an applicable national emission standard, the average of results of all repetitions shall apply.

7.2 *Acceptable isokinetic results*.—7.2.1 The following range sets the limit on acceptable isokinetic sampling results:

If $90\% \leq I \leq 110\%$, the results are acceptable; otherwise, reject the test and repeat.

8. *References*.—1. Addendum to Specifications for Incinerator Testing at Federal Facilities, PHS, NCAPC, Dec. 6, 1967.

2. Determining Dust Concentration in a Gas Stream, ASME Performance Test Code No. 27, New York, N.Y., 1957.

3. Devorkin, Howard, et al., Air Pollution Source Testing Manual, Air Pollution Control District, Los Angeles, Calif., Nov. 1963.

4. Hatch, W. R. and W. L. Ott, "Determination of Sub-Microgram Quantities of Mercury by Atomic Absorption Spectrophotometry," Anal. Chem., 40:2085-87, 1968.

5. Mark, L. S., Mechanical Engineers' Handbook, McGraw-Hill Book Co., Inc., New York, N.Y., 1951.

6. Martin, Robert M., Construction Details of Isokinetic Source Sampling Equipment, Environmental Protection Agency, APTD-0581.

7. Methods for Determination of Velocity, Volume, Dust and Mist Content of Gases, Western Precipitation Division of Joy Mfg. Co., Los Angeles, Calif. Bul. WP-50, 1968.

8. Perry, J. H., Chemical Engineers' Handbook, McGraw-Hill Book Co., Inc., New York, N.Y., 1960.

9. Rom, Jerome J., Maintenance, Calibration, and Operation of Isokinetic Source Sampling Equipment, Environmental Protection Agency, APTD-0576.

10. Shigehara, R. T., W. F. Todd, and W. S. Smith, Significance of Errors in Stack Sampling Measurements, Paper presented at the Annual Meeting of the Air Pollution Control Association, St. Louis, Mo., June 14–19, 1970.

11. Smith, W. S., et al., Stack Gas Sampling Improved and Simplified with New Equipment, APCA paper No. 67–119, 1967.

12. Smith, W. S., R. T. Shigehara, and W. F. Todd, A Method of Interpreting Stack Sampling Data, Paper presented at the 63d Annual Meeting of the Air Pollution Control Association, St. Louis, Mo., June 14–19, 1970.

13. Specifications for Incinerator Testing at Federal Facilities PHS, NCAPC, 1967.

14. Standard Method for Sampling Stacks for Particulate Matter, In: 1971 Book of ASTM Standards, part 23, Philadelphia, 1971, ASTM Designation D-2928-71.

15. Vennard, J. K., Elementary Fluid Mechanics, John Wiley and Sons, Inc., New York, 1947.

METHOD 102. REFERENCE METHOD FOR DETERMINATION OF PARTICULATE AND GASEOUS MERCURY EMISSIONS FROM STATIONARY SOURCES (HYDROGEN STREAMS)

1. *Principle and applicability*—1.1 *Principle*.—Particulate and gaseous mercury emissions are isokinetically sampled from the source and collected in acidic iodine monochloride solution. The mercury collected (in the mercuric form) is reduced to elemental mercury in basic solution by hydroxylamine sulfate. Mercury is aerated from the solution and analyzed using spectrophotometry.

1.2 *Applicability*.—This method is applicable for the determination of particulate and gaseous mercury emissions when the carrier gas stream is principally hydrogen. The method is for use in ducts or stacks at stationary sources. Unless otherwise specified, this method is not intended to apply to gas streams other than those emitted directly to the atmosphere without further processing.

2. *Apparatus*—2.1 *Sampling train*.—A schematic of the sampling train used by EPA is shown in figure 102-1. Commercial models of this train are available, although complete construction details are described in APTD-0581,[1] and operating and maintenance procedures are described in APTD-0576. The components essential to this sampling train are the following:

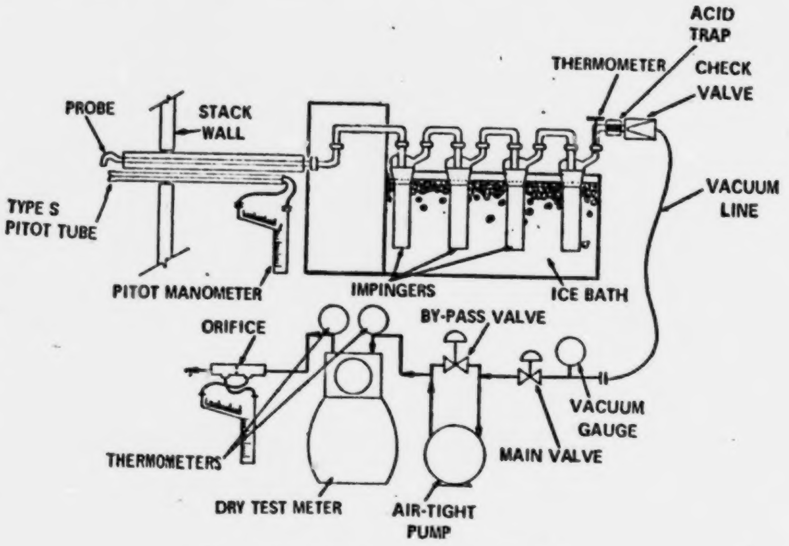

Figure 102-1. Mercury sampling train

2.1.1 *Nozzle*. Stainless steel or glass with sharp, tapered leading edge.

2.1.2 *Probe*. Sheathed Pyrex[2] glass.

2.1.3 *Pitot tube*. Type S (figure 102-2), or equivalent, with a coefficient within 5 percent over the working range, attached to probe to monitor stack gas velocity.

2.1.4 *Impingers*. Four Greenburg-Smith impingers connected in series with glass ball-joint fittings. The first, third, and fourth impingers may be modified by replacing the tip with one-half inch ID glass tube extending to one-half inch from the bottom of the flask.

2.1.5 *Acid trap*. Mine safety appliances air line filter, catalogue No. 81857, with acid absorbing cartridge and suitable connections, or equivalent.

2.1.6 *Metering system*. Vacuum gage, leakless pump, thermometers capable of measuring temperature to within 5°F, dry gas meter with 2 percent accuracy, and related equipment, described in APTD-0581, to maintain an isokinetic sampling rate and to determine sample volume.

2.1.7 *Barometer*. To measure atmospheric pressure to ± 0.1 in hg.

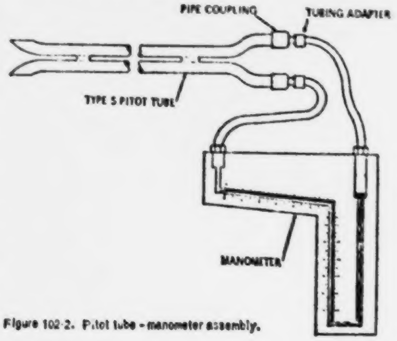

Figure 102-2. Pitot tube - manometer assembly.

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[1] These documents are available for a nominal cost from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Va. 22151.

[2] Mention of trade names or commercial products does not constitute endorsement by the Environmental Protection Agency.

2.2 *Measurement of stack conditions (stack pressure, temperature, moisture, and velocity)*—2.2.1 *Pitot tube.* Type S, or equivalent, with a coefficient within 5 percent over theworking range.

2.2.2 *Differential pressure gage.* Inclined manometer, or equivalent, to measure velocity head to within 10 percent of the minimum value. Micromanometers should be used if warranted.

2.2.3 *Temperature gage.* Any temperature-measuring device to measure stack temperature to within 1° F.

2.2.4 *Pressure gage.* Pitot tube and inclined manometer, or equivalent, to measure stack pressure to within 0.1 in hg.

2.2.5 *Moisture determination.* Drying tubes, condensers, or equivalent, to determine stack gas moisture content in hydrogen to within 1 percent.

2.3 *Sample recovery*—2.3.1 *Leakless glass sample bottles.* 500 ml and 200 ml with Teflon-lined tops.

2.3.2 *Graduated cylinder.* 250 ml.

2.3.3 *Plastic jar.* Approximately 300 ml.

2.4 *Analysis*—2.4.1 *Spectrophotometer.* To measure absorbance at 253.7 nm. Perkin Elmer model 303, with a cylindrical gas cell (approximately 1.5 in o.d. x 7 in) with quartz glass windows, and hollow cathode source, or equivalent.

2.4.2 *Gas sampling bubbler.* Tudor Scientific Co. Smog Bubbler, catalogue No. TP-1150, or equivalent.

2.4.3 *Recorder.* To match output of spectrophotometer.

3. *Reagents.*—3.1 Stock reagents.—3.1.1 Potassium iodide. Reagent grade.

3.1.2 *Distilled water.*

3.1.3 *Potassium iodide solution, 25 percent.*—Dissolve 250 g of potassium iodide (reagent 3.1.1) in distilled water and dilute to 1 to 1.

3.1.4 *Hydrochloric acid.* Concentrated.

3.1.5 *Potassium iodate.* Reagent grade.

3.1.6 *Iodine monochloride (ICl) 1.0M.* To 800 ml of 25 percent potassium iodide solution (reagent 3.1.3), add 800 ml of concentrated hydrochloric acid. Cool to room temperature. With vigorous stirring, slowly add 135 g of potassium iodate and continue stirring until all free iodine has dissolved to give a clear orange-red solution. Cool to room temperature and dilute to 1,800 ml with distilled water. The solution should be kept in amber bottles to prevent degradation.

3.1.7 *Sodium hydroxide pellets.* Reagent grade.

3.1.8 *Nitric acid.* Concentrated.

3.1.9 *Hydroxylamine sulfate.* Reagent grade.

3.1.10 *Sodium chloride.* Reagent grade.

3.1.11 *Mercuric chloride.* Reagent grade.

3.2 *Sampling.* 3.2.1 *Absorbing solution, 0.1N ICl.* Dilute 100 ml of the 1.0M ICl stock solution (reagent 3.1.6) to 1 l with distsilled water. The solution should be kept in glass bottles to prevent degradation. This reagent should be stable for at least 2 months; however, periodic checks should be performed to insure quality.

3.2.2 *Wash acid.* 1:1 V/V nitric acid-water.

3.2.3 *Distilled, deionized water.*

3.2.4 *Silica gel.* Indicating type, 6 to 16 mesh, dried at 350°F for 2 hours.

3.3. *Analysis*—3.3.1 *Sodium hydroxide, 10N.* Dissolve 400 g of sodium hydroxide pellets in distilled water and dilute to 1 l.

3.3.2 *Reducing agent, 12 percent hydroxylamine sulfate, 12 percent sodium chloride.* To 60 ml of distilled water, add 12 g of hydroxylamine sulfate and 12 g of sodium chloride. Dilute to 100 ml. This quantity is sufficient for 20 analyses and must be prepared daily.

3.3.3 *Aeration gas.* Zero grade air.

3.3.4 *Hydrochloric acid, 0.3N.* Dilute 25.5 ml of concentrated hydrochloric acid to 1 l with distilled water.—.

3.4 *Standard mercury solutions*—3.4.1 *Stock solution.* Add 0.1354 g of mercuric chloride to 80 ml of 0.3N hydrochloric acid. After the mercuric chloride has dissolved, add 0.3N hydrochloric acid and adjust the volume to 100 ml. One ml of this solution is equivalent to 1 mg of free mercury.

3.4.2 *Standard solutions.* Prepare calibration solutions by serially diluting the stock solution (3.4.1) with 0.3N hydrochloric acid. Prepare solutions at concentrations in the linear working range for the instrument to be used. Solutions of 0.2 μg/ml, 0.4 μg/ml and 0.6 μg/ml have been found acceptable for most instruments. Store all solutions in glass-stoppered, glass bottles. These solutions should be stable for at least 2 months; however, periodic checks should be performed to insure quality.

4. *Procedure.* 4.1 Guidelines for source testing are detailed in the following sections. These guidelines are generally applicable; however, most sample sites differ to some degree and temporary alterations such as stack extensions or expansions often are required to insure the best possible sample site. Further, since mercury is hazardous, care should be taken to minimize exposure. Fnally, since the total quantity of mercury to be collected generally is small, the test must be carefully conducted to prevent contamination or loss of sample.

4.2 Selection of a sampling site and minimum number of traverse points.

4.2.1 Select a suitable sampling site that is as close as is practicable to the point of atmospheric emission. If possible, stacks smaller than 1 foot in diameter should not be sampled.

4.2.2 The sampling site should be at least eight stack or duct diameters downstream and two diameters upstream from any flow disturbance such as a bend, expansion or contraction. For rectangular cross section, determine an equivalent diameter from the following equation:

$$D_e=\frac{2LW}{L+W} \qquad \text{eq. 102-1}$$

where:

D_e=equivalent diameter.
L=length.
W=width.

4.2.3 When the above sampling site criteria can be met, the minimum number of traverse points is four (4) for stacks 1 foot in diameter or less, eight (8) for stacks larger than 1 foot but 2 feet in diameter or less, and twelve (12) for stacks larger than 2 feet.

4.2.4 Some sampling situations may render the above sampling site criteria impractical. When this is the case, choose a convenient sampling location and use figure 102-3 to determine the minimum number of traverse points. However, use figure 102-3 only for stacks 1 foot in diameter or larger.

4.2.5 To use figure 102-3, first measure the distance from the chosen sampling location to the nearest upstream and downstream disturbances. Divide this distance by the diameter or equivalent diameter to determine the distance in terms of pipe diameters. Determine the corresponding number of traverse points for each distance from figure 102-3. Select the higher of the two numbers of traverse points, or a greater value, such that for circular stacks the number is a multiple of four, and for rectangular stacks the number follows the criteria of section 4.3.2.

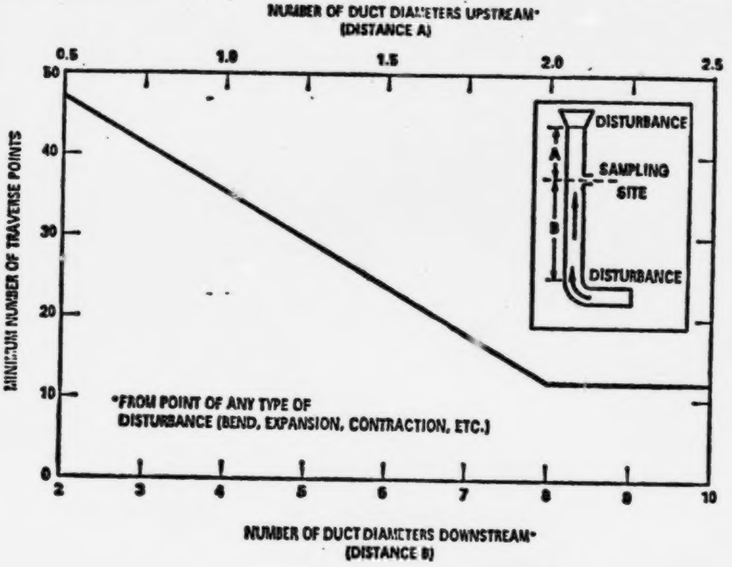

Figure 104-3. Minimum number of traverse points.

4.2.6 If a selected sampling point is closer than 1 inch from stack wall, adjust the location of that point to insure that the sample is taken at least 1 inch away from the wall.

4.3 Cross-sectional layout and location of traverse points.

4.3.1 For circular stacks locate the traverse points on at least two diameters according to figure 102-4 and table 102-1. The traverse axes shall divide the stack-cross section into equal parts.

4.3.2 For rectangular stacks divide the cross-section into as many equal rectangular areas as traverse points, such that the ratio of the length to the width of the elemental areas is between one and two. Locate the traverse points at the centroid of each equal area according to figure 102-5.

4.4 Measurement of stack conditions.

4.4.1 Set up the apparatus as shown in figure 102-2. Make sure all connections are tight and leak free. Measure the velocity head and temperature at the traverse points specified by section 4.2 and 4.3.

4.4.2 Measure the static pressure in the stack.

4.4.3 Determine the stack gas moisture.

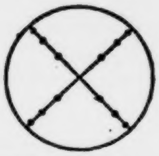

Figure 102-4. Cross section of circular stack showing location of traverse points on perpendicular diameters.

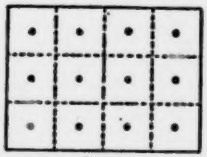

Figure 102-5. Cross section of rectangular stack divided into 12 equal areas, with traverse points at centroid of each area.

Table 102-1. Location of traverse points in circular stacks
(Percent of stack diameter from inside wall to traverse point)

Traverse point number on a diameter	Number of traverse points on a diameter											
	2	4	6	8	10	12	14	16	18	20	22	24
1	14.6	6.7	4.4	3.3	2.5	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2	85.4	25.0	14.7	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3		75.0	29.5	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4		93.3	70.5	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5			85.3	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6			95.6	80.6	65.8	35.5	26.9	22.0	18.8	16.5	14.6	13.2
7				89.5	77.4	64.5	36.6	28.3	23.6	20.4	18.0	16.1
8				96.7	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9					91.8	82.3	73.1	62.5	38.2	30.6	26.1	23.0
10					97.5	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11						93.3	85.4	78.0	70.4	61.2	39.3	32.3
12						97.9	90.1	83.1	76.4	69.4	60.7	39.8
13							94.3	87.5	81.2	75.0	68.5	60.2
14							98.2	91.5	85.4	79.6	73.9	67.7
15								95.1	89.1	83.5	78.2	72.8
16								98.4	92.5	87.1	82.0	77.0
17									95.6	90.3	85.4	80.6
18									98.6	93.3	88.4	83.9
19										96.1	91.3	86.8
20										98.7	94.0	89.5
21											96.5	92.1
22											98.9	94.5
23												96.8
24												98.9

4.4.4 Determine the stack gas molecular weight from the measured moisture content and knowledge of the expected gas stream composition. Sound engineering judgment should be used.

4.5 Preparation of sampling train.

4.5.1 Prior to assembly, clean all glassware (probe, impingers, and connectors) by rinsing with wash acid, tap water, 0.1M IC1, tap water, and finally distilled water. Place 100 ml of 0.1M IC1 in each of the first three impingers, and place approximately 200 g. of preweighed silica gel in the fourth impinger. Save 80 ml of the 0.1M IC1 as a blank in the sample analysis. Set up the train and the probe as in Figure 102-1.

4.5.2 Leak check the sampling train at the sampling site. The leakage rate should not be in excess of 1 percent of the desired sampling rate. Place crushed ice around the impingers. Add more ice during the run to keep the temperature of the gases leaving the last impinger at 70° F or less.

4.6 Mercury train operation.

4.6.1 Safety procedures. It is imperative that the sampler conduct the source test under conditions of utmost safety, since hydrogen and air mixtures are explosive. The sample train essentially is leakless, so that attention to safe operation can be concentrated at the inlet and outlet. The following specific items are recommended:

4.6.1.1 Operate only the vacuum pump during the test. The other electrical equipment, e.g. heaters, fans and timers, normally are not essential to the success of a hydrogen stream test.

4.6.1.2 Seal the sample port to minimize leakage of hydrogen from the stack.

4.6.1.3 Vent sampled hydrogen at least 10 feet away from the train. This can be accomplished easily by attaching a ½-in i.d. Tygon tube to the exhaust from the orifice meter.

4.6.2 For each run, record the data required on the sample sheet shown in figure 102-6. Take readings at each sampling point at least every 5 minutes and when significant changes in stack conditions necessitate additional adjustments in flow rate.

4.6.3 Sample at a rate of 0.5 to 1.0 cfm. Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which would occur in a 24-hour period. In the case of cyclic operations, sufficient tests shall be made so as to allow accurate determination or calculation of the emissions which will occur over the duration of the cycle. A minimum sample time of 2 hours is recommended. In some instances, high mercury concentrations can prevent sampling in one run for the desired minimum time. This is indicated by reddening in the first impinger as free iodine is liberated. In this case, a run may be divided into two or more subruns to insure that the absorbing solutions are not depleted.

PLANT ____________
LOCATION ____________
OPERATOR ____________
DATE ____________
RUN NO. ____________
SAMPLE BOX NO. ____________
METER BOX NO. ____________
METER $\Delta H_@$ ____________
C FACTOR ____________

SCHEMATIC OF STACK CROSS SECTION

AMBIENT TEMPERATURE ________
BAROMETRIC PRESSURE ________
ASSUMED MOISTURE, % ________

PROBE LENGTH, m. ________
NOZZLE DIAMETER, In. ________

TRAVERSE POINT NUMBER	SAMPLING TIME (θ), min.	STATIC PRESSURE (P_s), in. Hg	STACK TEMPERATURE (T_s), °F	VELOCITY HEAD (ΔP_s),	PRESSURE DIFFERENTIAL ACROSS ORIFICE METER (ΔH), in. H_2O	GAS SAMPLE VOLUME (V_m), ft³	GAS SAMPLE TEMPERATURE AT DRY GAS METER		SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
							INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F		
TOTAL							Avg.	Avg.		
AVERAGE							Avg.			

Figure 102-6. Field data

4.6.4 To begin sampling, position the nozzle at the first traverse point with the tip pointing directly into the gas stream. Immediately start the pump and adjust the flow to isokinetic conditions. Sample for at least 5 minutes at each traverse point; sampling time must be the same for each point. Maintain isokinetic sampling throughout the sampling period, using the following procedures.

4.6.4.1 Nomographs which aid in the rapid adjustment of the sampling rate without other computations are in APTD-0576 and are available from commercial suppliers. The available nomographs, however, are set up for use in air streams, and minor changes are required to provide applicability to hydrogen.

4.6.4.2 Calibrate the meter box orifice. Use the techniques as described in APTD-0576.

4.6.4.3 The correction factor nomograph discussed in APTD-0576 and shown on the reverse side of commercial nomographs will not be used. In its place, the correction factor will be calculated using equation 102-2.

$$C=0.01\frac{(C_p M_d)^2}{\Delta H_@}\,\frac{P_s}{P_m}\,\frac{T_m}{M_s}$$

eq. 102-2

where:

C = Correction factor.
C_p = Pitot tube coefficient.
M_d = Mole fraction dry gas.
P_s = Stack pressure, inHg.
P_m = Meter pressure, inHg.
T_m = Meter temperature, °R.
M_s = Molecular weight of stack gas (from 4.4.4), lb/lb mole.
$\Delta H_@$ = Meter box calibration factor, obtained in step 4.6.4.2.

4.6.4.4 Set the calculated correction factor on the front of the operating nomograph. Select the proper nozzle and set the K-factor on the nomograph as detailed in APTD-0576.

4.6.4.5 Read the velocity head in the stack at each sample point from the manometer in the meter box. Convert the hydrogen ΔP to an equivalent value for air by multiplying by a ratio of the molecular weight of air to hydrogen at the stack moisture content. Insert this value of ΔP onto the nomograph and read off ΔH. Again, convert the ΔH, which is an air equivalent value, to the ΔH for hydrogen by dividing by 13. This factor includes the ratio of the dry molecular weights and a correction for the different orifice calibration factors for hydrogen and air. This procedure is diagrammed below:

Observe ΔP → Multiply by $\left(\frac{MW\ \text{air}}{MW\ H_2}\right)_{wet}$ → Set this on nomograph.

Read off ΔH → Divide by 13 = ΔH to be used on meter box.

4.6.4.6 Operate the sample train at the calculated ΔH at each sample point.

4.6.5 Turn off the pump at the conclusion of each run and record the final readings. Immediately remove the probe and nozzle from the stack and handle in accordance with the sample recovery process described in section 4.7.

4.7 Sample recovery.

4.7.1 (All glass storage bottles and the graduated cylinder must be precleaned as in section 4.5.1). This operation should be performed in an area free of possible mercury contamination. Industrial laboratories and ambient air around mercury-using facilities are not normally free of mercury contamination. When the sampling train is moved, care must be exercised to prevent breakage and contamination.

4.7.2 Disconnect the probe from the impinger train. Place the contents (measured to ±1 ml) of the first three impingers into a 500 ml sample bottle. Rinse the probe and all glassware between it and the back half of the third impinger with two 50 ml portions of 0.1M ICl solution. Add these rinses to the first bottle. For a blank, place 80 ml of the 0.1M ICl in a 100 ml sample bottle. Place the silica gel in the plastic jar. Seal and secure all containers for shipment. If an additional test is desired, the glassware can be carefully double rinsed with distilled water and reassembled. However, if the glassware is to be out of use more than 2 days, the initial acid wash procedure must be followed.

4.8 *Analysis*—4.8.1 *Apparatus preparation*.—Clean all glassware according to the procedure of section 4.5.1. Adjust the instrument settings according to the instrument manual, using an absorption wavelength of 253.7 nm.

4.8.2 *Analysis preparation*.—Adjust the air delivery pressure and the needle valve to obtain a constant air flow of about 1.3 l/min. The analysis tube should be bypassed except during aeration. Purge the equipment for 2 minutes. Prepare a sample of mercury standard solution (3.4.2) according to section 4.8.3. Place the analysis tube in the line, and aerate until a maximum peak height is reached on the recorder. Remove the analysis tube, flush the lines, and rinse the analysis tube with distilled water. Repeat with another sample of the same standard solution. This purge and analysis cycle is to be repeated until peak heights are reproducible.

4.8.3 *Sample preparation*.—Just prior to analysis, transfer a sample aliquot of up to 50 ml to the cleaned 100 ml analysis tube. Adjust the volume to 50 ml with 0.1M ICl if required. Add 5 ml of 10 N sodium hydroxide, cap tube with a clean glass stopper and shake vigorously. Prolonged, vigorous shaking at this point is necessary to obtain an accurate analysis. Add 5 ml of the reducing agent (reagent 3.3.2), cap tube with a clean glass stopper and shake vigorously and immediately place in sample line.

4.8.4 *Mercury determination*.—After the system has been stabilized, prepare samples from the sample bottle according to section 4.8.3. Aerate the sample until a maximum peak height is reached on the recorder. The mercury content is determined by comparing the peak heights of the samples to the peak heights of the calibration solutions. If collected samples are out of the linear range, the samples should be diluted. Prepare a blank from the 100 ml bottle according to section 4.8.3 and analyze to determine the reagent blank mercury level.

5. *Calibration*.—5.1 *Sampling Train*. 5.1.1 Use standard methods and equipment as detailed in APTD-0576 to calibrate the rate meter, pitot tube and dry gas meter. Recalibrate prior to each test series.

5.2 *Analysis*.—5.2.1 Prepare a calibration curve for the spectrophotometer using the standard mercury solutions. Plot the peak heights read on the recorder versus the concentration of mercury in the standard solutions. Standards should be interspersed with the samples since the calibration can change slightly with time. A new calibration curve should be prepared for each new set of samples run.

6. *Calculations*—6.1 *Average dry gas meter temperature, stack temperature, stack pressure and average orifice pressure drop*.—See data sheet (fig. 102-6).

6.2 *Dry gas volume*.—Correct the sample volume measured by the dry gas meter to stack conditions by using equation 102-3.

$$V_{m_s}=V_m\frac{T_s}{T_m}\,\frac{\left(P_{bar}+\frac{\Delta H}{13.6}\right)}{P_s}$$

eq. 102-3

where:

V_{m_s} = Volume of gas sample through the dry gas meter (stack conditions), ft³.
V_m = Volume of gas sample through the dry gas meter (meter conditions), ft³.
T_s = Average temperature of stack gas, °R.
T_m = Average dry gas meter temperature, °R.
P_{bar} = Barometric pressure at the orifice meter, inHg.
ΔH = Average pressure drop across the orifice meter, inH_2O.
13.6 = Specific gravity of mercury.
P_s = Stack pressure, P_{bar} ± static pressure, inHg.

6.3 *Volume of water vapor.*

$$V_{w_s} = K_w V_{l_c} \frac{T_s}{P_s} \quad \text{eq. 102-4}$$

where:

V_{w_s} = Volume of water vapor in the gas sample (stack conditions), ft³.

$K_w = 0.00267 \frac{\text{in. Hg.} - \text{ft}^3}{\text{ml.} - {}^\circ\text{R}}$, when these units are used.

V_{l_c} = Total volume of liquid collected in impingers and silica gel (see figure 102-7), ml.

T_s = Average stack gas temperature, °R.

P_s = Stack pressure, P_{bar} ± static pressure, in. Hg.

6.4 *Total gas volume.*

$$V_{total} = V_{m_s} + V_{w_s} \quad \text{eq. 102-5}$$

where:

V_{total} = total volume of gas sample (stack conditions), ft³.

V_{m_s} = Volume of gas through dry gas meter (stack conditions), ft³.

V_{w_s} = Volume of water vapor in gas sample (stack conditions), ft³.

	VOLUME OF LIQUID WATER COLLECTED	
	IMPINGER VOLUME, ml	SILICA GEL WEIGHT, g
FINAL		
INITIAL		
LIQUID COLLECTED		
TOTAL VOLUME COLLECTED		g* ml

*CONVERT WEIGHT OF WATER TO VOLUME BY dividing total weight INCREASE BY DENSITY OF WATER. (1 g/ml):

$$\frac{\text{INCREASE, g}}{(1\ \text{g/ml})} = \text{VOLUME WATER, ml}$$

Figure 102-7. Analytical data.

6.5 *Stack gas velocity*—Use equation 102-6 to calculate the stack gas velocity.

$$(v_s)_{avg.} = K_p C_p (\sqrt{\Delta P})_{avg.} \sqrt{\frac{(T_s)_{avg.}}{P_s M_s}} \quad \text{eq 102-6}$$

where:

$(v_s)_{avg.}$ = Average stack gas velocity, feet per second.

$K_p = 85.53 \frac{\text{ft}}{\text{sec}} \left(\frac{\text{lb-in.Hg}}{\text{lb mole-}^\circ\text{R-in.H}_2\text{O}} \right)^{1/2}$ when these units are used.

C_p = Pitot tube coefficient, dimensionless.

$(T_s)_{avg.}$ = Average stack gas temperature, °R.

$(\sqrt{\Delta P})_{avg.}$ = Average square root of the velocity head of stack gas (in.H₂O)^{1/2} (see figure 102-8).

P_s = Stack pressure, P_{bar} ± static pressure, in Hg.

M_s = Molecular weight of stack gas (wet basis), the summation of the products of the molecular weight of each component multiplied by its volumetric proportion in the mixture, lb/lb-mole.

Figure 102-8 shows a sample recording sheet for velocity traverse data. Use the averages in the last two columns of figure 102-8 to determine the average stack gas velocity from equation 102-6.

6.6 Mercury collected. Calculate the total weight of mercury collected by using eq. 102-7.

PLANT________________________________

DATE________________________________

RUN NO.______________________________

STACK DIAMETER, in.______________________

BAROMETRIC PRESSURE, in. Hg.______________

STATIC PRESSURE IN STACK (P_g), in. Hg.________

OPERATORS____________________________

SCHEMATIC OF STACK CROSS SECTION

Traverse point number	Velocity head, in. H_2O	$\sqrt{\Delta_P}$	Stack Temperature (T_S), °F
	AVERAGE:		

Figure 102-8. Velocity traverse data.

$$W_t = V_tC_t - V_bC_b \ldots\ldots \text{eq. 102-7}$$

where:

W_t = Total weight of mercury collected, μg.
V_t = Total volume of condensed moisture and ICl in sample bottle, ml.
C_t = Concentration of mercury measured in sample bottle, μg/ml.
V_b = Total volume of ICl used in sampling (impinger contents and all wash amounts), ml.
C_b = Blank concentration of mercury in ICl solution, μg/ml.

6.7 *Total mercury emission*.—Calculate the total amount of mercury emitted from each stack per day by equation 102-8. This equation is applicable for continuous operations. For cyclic operations, use only the time per day each stack is in operation. The total mercury emissions from a source will be the summation of results from all stacks.

$$R = \frac{W_t (v_s)_{avg} A_s}{V_{total}} \times \frac{86{,}400 \text{ seconds/day}}{10^6 \ \mu g/g} \qquad \text{eq. 102-8}$$

where:

R = Rate of emission, g/day.
W_t = Total weight of mercury collected, μg.
V_{total} = Total volume of gas sample (stack conditions), ft³.
$(v_s)_{avg}$ = Average stack gas velocity, feet per second.
A_s = Stack area, ft².

6.8 *Isokinetic variation (comparison of velocity of gas in probe tip to stack velocity)*.

$$I = \frac{100 V_{total}}{A_n \Theta (v_s)_{avg}} \qquad \text{eq. 102-9}$$

where:

I = Percent of isokinetic sampling.
V_{total} = Total volume of gas sample (stack conditions), ft³.
A_n = Probe tip area, ft².
Θ = Sampling time, sec.
$(v_s)_{avg}$ = Average stack gas velocity, feet per second.

7. *Evaluation of results*.—7.1 *Determination of compliance*.—7.1.1 Each performance test shall consist of three repititions of the applicable test method. For the purpose of determining compliance with an applicable national emission standard, the average of results of all repetitions shall apply.

7.2 *Acceptable isokinetic results*.—7.2.1 The following range sets the limit on acceptable isokinetic sampling results: If $90\% \le I \le 110\%$, the results are acceptable; otherwise, reject the test and repeat.

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13. Specifications for Incinerator Testing at Federal Facilities PHS, NCAPC, 1967.

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METHOD 103. BERYLLIUM SCREENING METHOD

1. *Principle and applicability*.—1.1 *Principle*.—Beryllium emissions are isokinetically sampled from three points in a duct or stack. The collected sample is analyzed for beryllium using an appropriate technique.

1.2 *Applicability*.—This procedure details guidelines and requirements for methods acceptable for use in determining beryllium emissions in ducts or stacks at stationary sources, as specified under the provisions of § 61.14 of the regulations.

2. *Apparatus*—2.1 *Sampling train*.—A schematic of the required sampling train configuration is shown in figure 103-1. The essential components of the train are the following:

2.1.1 *Nozzle*.—Stainless steel, or equivalent, with sharp, tapered leading edge.

2.1.2 *Probe*.—Sheathed Pyrex[1] glass.

2.1.3 *Filter*.—Millipore AA, or equivalent, with appropriate filter holder that provides a positive seal against leakage from outside or around the filter. It is suggested that a Whatman 41, or equivalent, be placed immediately against the back side of the Millipore filter as a guard against breakage of the Millipore. Include the Whatman 41 in the analysis. Equivalent filters must be at least 99.95 percent efficient (DOP Test) and amenable to the analytical procedure.

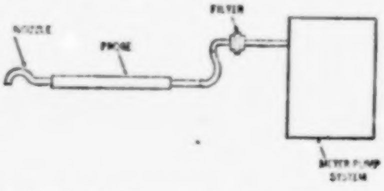

Figure 103-1. Beryllium screening method, sample train schematic.

2.1.4 *Meter-pump system*.—Any system that will maintain isokinetic sampling rate, determine sample volume, and is capable of a sampling rate of greater than 0.5 cfm.

2.2 *Measurement of stack conditions (stack pressure, temperature, moisture and velocity)*.—The following equipment shall be used in the manner specified in section 4.3.1.

2.2.1 *Pitot tube*.—Type S, or equivalent, with a coefficient within 5 percent over the working range.

2.2.2 *Differential pressure gauge*.—Inclined manometer, or equivalent, to measure velocity head to within 10 percent of the minimum value.

2.2.3 *Temperature gauge*.—Any temperature measuring device to measure stack temperature to within 5° F.

2.2.4 *Pressure gauge*.—Any device to measure stack pressure to within 0.1 in. Hg.

2.2.5 *Barometer*.—To measure atmospheric pressure to within 0.1 in. Hg.

2.2.6 *Moisture determination*.—Wet and dry bulb thermometers, drying tubes, condensers, or equivalent, to determine stack gas moisture content to within 1 percent.

2.3 *Sample recovery*.—2.3.1 *Probe cleaning equipment*.—Probe brush or cleaning rod at least as long as probe, or equivalent. Clean cotton balls, or equivalent, should be used with the rod.

2.3.2 *Leakless glass sample bottles*.

2.4 *Analysis*.—2.4.1 Equipment necessary to perform an atomic absorption, spectrographic, fluorometric, chromatographic, or equivalent analysis.

3. *Reagents*.—3.1 *Sample recovery*.—3.1.1 *Acetone*.—Reagent grade.

3.1.2 *Wash acid*.—1:1 V/V hydrochloric acid-water.

3.2 *Analysis*.—3.2.1 Reagents as necessary for the selected analytical procedure.

4. *Procedure*.—4.1 Guidelines for source testing are detailed in the following sections. These guidelines are generally applicable; however, most sample sites differ to some degree and temporary alterations such as stack extensions or expansions often are required to insure the best possible sample site. Further, since beryllium is hazardous, care should be taken to minimize exposure. Finally, since the total quantity of beryllium to be collected is quite small, the test must be carefully conducted to prevent contamination or loss of sample.

4.2 *Selection of a sampling site and number of runs*.—4.2.1 Select a suitable sampling site that is as close as practicable to the point of atmospheric emission. If possible, stacks smaller than 1 foot in diameter should not be sampled.

4.2.2 The sampling site should be at least eight stack or duct diameters downstream and two diameters upstream from any flow disturbance such as a bend, expansion or contraction. For rectangular cross-section, determine an equivalent diameter using the following equation:

$$D_e = \frac{2LW}{L + W} \text{------------------------ eq. 103-1}$$

where:

D_e = equivalent diameter
L = length
W = width

4.2.3 Some sampling situations may render the above sampling site criteria impractical. When this is the case, an alternate site may be selected but must be no less than two diameters downstream and one-half diameter upstream from any point of disturbance. Additional sample runs are recommended at any sample site not meeting the criteria of section 4.2.2.

4.2.4 Three runs shall constitute a test. The runs shall be conducted at three different points. The three points shall proportionately divide the diameter, i.e. be located at 25, 50 and 75 percent of the diameter from the inside wall. For horizontal ducts, the diameter shall be in the vertical direction. For rectangular ducts, sample on a line through the centroid and parallel to a side. If additional runs are required per section 4.2.3, proportionately divide the duct to accommodate the total number of runs.

4.3 *Measurement of stack conditions*. 4.3.1 Measure the stack gas pressure, moisture, and temperature, using the equipment described in § 2.2. Determine the molecular weight of the stack gas. Sound engineering estimates may be made in lieu of direct

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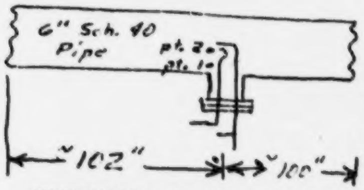
[1] Mention of trade names or specific products does not constitute endorsement by the Environmental Protection Agency.

APPENDIX G

FIELD DATA SHEETS

PLANT SCRIN
DATE 9-24-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-1
OPERATOR JTC
AMBIENT TEMPERATURE 55°F
BAROMETRIC PRESSURE 30.02 in Hg
STATIC PRESSURE, (P_s) 4.5 psig
FILTER NUMBER (s) –



SCHEMATIC OF TRAVERSE POINT LAYOUT

PROBE LENGTH AND TYPE SPEC. SS
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3%
SAMPLE BOX NUMBER 3
METER BOX NUMBER ES-1
METER ΔH@ 1.98
C FACTOR 1.29
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp 6.8

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ STACK PRESS (PSIG)	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
	0	15:45	783.625		DESIRED	ACTUAL	°C	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	1345	783.625	0.58	.135	.17	22					
1	5	1350	788.240	0.59	.135	.13	22	79	75	4.4		55
2	10	1355	792.520	0.59	.135	.135	22	75	75	4.5		55
2	15	1400	796.110	0.59	.135	.135	22	73	74	4.5		56
2	20	1405	800.020	0.59	.135	.135	22	73	73	4.5		58
2	25	1410	803.610	0.59	.135	.135	22	75	73	4.5		58
1	30	1415	807.350	0.59	.135	.135	22	77	74	4.5		58
1	35	1420	811.120	0.59	.135	.135	22	76	75	4.5		58
1	40	1425	814.950	0.59	.135	.140	22	75	74	4.5		58
1	45	1430	818.730	0.59	.135	.135	22	75	74	4.5		58
2	50	1435	822.340	0.585	.135	.135	22	75	74	4.5		58
2	55	1440	826.150	0.595	.135	.132	22	75	73	4.5		60
1	60	1445	829.480	0.585	.135	.135	22	75	72	4.5		60
1	65	1450	833.050	0.595	.135	.135	22	76	72	4.5		60
2	70	1455	836.610	0.585	.135	.135	22	76	72	4.5		60
2	75	1500	840.170	0.585	.135	.135	22	76	72	4.5		60
1	80	1505	843.250	0.580	.135	.135	22	76	73	4.5		60
1	85	1510	846.900	0.585	.135	.135	22	74	71	4.5		60
2	90	1515	850.530	0.575	.135	.135	22	73	70	4.5		60
2	95	1520	854.170	0.590	.135	.135	22	72	70	4.5		60
1	100	1525	857.790	0.580	.135	.135	22	72	69	4.5		60
1	105	1530	861.430	0.580	.135	.135	22	75	70	4.5		60
2	110	1535	865.270	0.580	.135	.135	22	75	70	4.5		60
COMMENTS: 2	115	1540	868.050	0.580	.135	.135	22	75	70	4.5		60
2	120	1545	872.335	END TEST				75	71	4.5		62

FIELD [illegible]

PLANT [illegible] SCA-2
DATE [illegible]
SAMPLING LOCATION [illegible]
SAMPLE TYPE [illegible]
RUN NUMBER ~~[illegible]~~ SCA-2
OPERATOR DJO
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 30.02
STATIC PRESSURE, (P_s) 3.2 PSIG
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER 2-4
METER BOX NUMBER #2
METER $\Delta H_@$ 1.705
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD ~~(Δp_s), in. H_2O~~ CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ OUTLET PSIG PRESS.	~~SAMPLE BOX TEMPERATURE, °F~~ INLET PSIG PRESS	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	1340	345.71	1815		.41	95	58	60	3.4	4.0	55
	5	1345	346.34	1815		.41	95	58	60	3.4	4.0	55
	10	1350	346.39	1810	.0	.41	96	58	60	3.4	4.0	55
	15	1355	348.33	1810	10.7	.41	96	58	60	3.4	4.0	55
	20	1400	351.12	1810		.41	96	59	60	3.4	4.0	55
	25	1405	353.33	1910		.41	96	58	60	3.4	4.0	55
	30	1410	359.37	1810		.41	95.8	58	60	3.4	4.0	55
	35	1415	365.51	1910		.35	95.8	59	60	3.4	4.0	57
	40	1420	371.31	1815		.27	95.5	58	60	3.4	4.0	57
	45	1425	376.01	1810		.32	95.2	59	61	3.4	4.0	57
	50	1430	382.69	1915		.32	95.3	59	61	3.4	4.0	56
	55	1435	387.01	1810		.25	95.2	59	61	3.4	4.0	56
	60	1440	393.51	1915		.26	95.3	59	61	3.4	4.0	55
	65	1445	398.31	1900		.25	95.5	59	61	3.4	4.0	55
	70	1450	404.09	1910		.25	96	59	61	3.4	4.0	55
	75	1455	409.31	1810		.26	96	59	61	3.4	4.0	55
	80	1500	414.59	1815		.25	95.8	59	61	3.4	4.0	55
	85	1505	419.85	1815		.25	95.8	59	61	3.4	4.0	55
	90	1510	425.10	1820		.24	95.8	59	61	3.4	4.0	55
	95	1515	430.32	1815		.25	95.3	58	60	3.4	4.0	55
	100	1520	435.54	1815		.25	95.5	58	60	3.4	4.0	55
	105	1525	440.79	1815		.25	95.5	58	60	3.4	4.0	55
	110	1530	446.01	1910		.26	95.3	58	60	3.4	4.0	55

COMMENTS: Next Page

OUTLET ↑ INLET ↑

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TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				CFM	DESIRED	ACTUAL	INLET	INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F	OUTLET PRESS PSIG	INLET PRESS PSIG	
	115	1535	451.31	1900		.26	95.2	58	60	3.4	4.0	55
	120	1540	456.59									
			END									

EPA (Dur) 236
4 72

FIELD

PLANT So B.N
DATE 9-24-78
SAMPLING LOCATION INST
SAMPLE TYPE Hg
RUN NUMBER SCA-3
OPERATOR Sab
AMBIENT TEMPERATURE 50
BAROMETRIC PRESSURE 29.98
STATIC PRESSURE, (P_s) 4.5 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5ft, SS
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL3
METER BOX NUMBER E.1-1
METER $\Delta H_@$ 1.93
C FACTOR 1.24
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp 6.8

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ STACK PRESS psig	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
1	0	1708	872.335	0.59	.135	.135	22	55	56	4.5		58
1	5	1713	874.875	0.59	.135	.135	22	55	56	4.5		58
2	10	1718	878.375	0.59	.135	.135	22	55	56	4.5		58
2	15	1723	881.900	0.57	.135	.135	22	53	55	4.5		58
1	20	1728	885.450	0.57	.135	.135	22	53	55	4.5		58
1	25	1733	889.020	0.57	.135	.135	22	53	53	4.5		58
2	30	1738	892.600	0.57	.135	.135	22	53	53	4.5		56
2	35	1743	896.180	0.57	.135	.135	22	52	53	4.5		56
1	40	1748	899.750	0.57	.135	.135	22	51	52	4.5		56
1	45	1753	903.345	0.57	.135	.135	22	51	51	4.5		56
2	50	1758	906.910	0.57	.135	.135	22	51	51	4.5		56
2	55	1803	910.475	0.58	.135	.135	22	51	51	4.5		56
1	60	1808	914.050	0.58	.135	.135	22	51	51	4.5		56
1	65	1813	917.615	0.58	.135	.135	22	50	51	4.5		56
2	70	1818	921.200	0.58	.135	.135	22	49	49	4.5		56
2	75	1823	924.810	0.58	.135	.135	22	48	49	4.5		56
1	80	1828	928.375	0.58	.135	.135	22	47	48	4.5		56
1	85	1833	931.960	0.57	.135	.135	22	46	48	4.5		56
2	90	1838	935.515	0.57	.135	.135	22	46	47	4.5		56
2	95	1843	938.310	0.57	.135	.135	22	45	47	4.5		56
1	100	1848	941.875	0.57	.135	.135	22	45	46	4.5		56
1	105	1853	945.440	0.58	.140	.140	22	45	45	4.5		56
2	110	1858	949.120	0.57	.135	.135	22	44	45	4.5		56
COMMENTS: 2	115	1903	952.720	0.57	.135	.135	22	44	45	4.5		56
2 EPA (Dur) 235 4 78	120	1908	956.350	Stop	End	test						

PLANT Sobin Chlor-Alkali
DATE 9/24/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER SCA-4
OPERATOR JRC
AMBIENT TEMPERATURE 54 → 48
BAROMETRIC PRESSURE 29.98
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-6
METER BOX NUMBER Z-2
METER $\Delta H_@$ 1.765
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H_2O~~ manometer CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0											
	0	1703	457.365	1740		0.11	96	55	58	4.0	3.2	50
	5	1708	460.230	1790		0.17	96	55	56	4.0	3.2	50
	10	1713	464.455	1790		0.26	96	55	58	4.0	3.3	50
	15	1718	469.725	1800		0.26	96	55	58	4.0	3.3	50
	20	1723	475.100	1795		0.26	96	55	58	4.0	3.3	50
	25	1728	480.110	1790		0.25	96	55	58	4.0	3.3	50
	30	1733	485.590	1790		0.22	96	55	58	4.0	3.3	50
	35	1738	490.400	1790		0.265	95	55	58	4.0	3.3	50
	40	1743	495.685	1790		0.26	95	54	58	4.0	3.3	50
	45	1748	500.950	1800		0.25	95	54	58	4.0	3.3	50
	50	1753	506.305	1795		0.26	95	54	58	4.0	3.3	50
	55	1758	511.525	1795		0.26	95	54	58	4.0	3.3	50
	60	1803	516.870	1795		0.265	95	54	58	4.0	3.3	50
	65	1808	522.110	1790		0.255	95	53	57	4.0	3.3	50
	70	1813	527.315	1800		0.255	95	53	57	4.0	3.3	50
	75	1818	532.610	1800		0.26	96	52	56	4.0	3.3	50
	80	1823	537.870	1800		0.26	95.5	52	56	4.0	3.3	50
	85	1828	543.100	1800		0.255	95.5	51	56	4.0	3.3	50
	90	1833	548.280	1800		0.25	95	51	56	4.0	3.3	50
	95	1838	553.500	1795		0.255	95	50	55	4.0	3.3	50
	100	1843	558.860	1795		0.25	95	50	55	4.0	3.3	50
	105	1848	563.915	1795		0.25	95	50	55	4.0	3.3	50
	110	1853	569.120	1800		0.24	95	41	54	4.0	3.3	50
COMMENTS:	115	1858	574.285	1800		0.24	95	41	54	4.0	3.3	< 50
						~~0.24~~	~~95~~	~~48~~	~~53~~	~~4.0~~	~~3.3~~	< 50
	120	1903	579.518	1800		0.245	95	48	53	4.0	3.3	<50

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END TEST # SCA-4

FIELD [illegible]

PLANT SCS in
DATE 9-24-74
SAMPLING LOCATION INLt
SAMPLE TYPE HG
RUN NUMBER SCA-5
OPERATOR [illegible]
AMBIENT TEMPERATURE 40
BAROMETRIC PRESSURE 24.98
STATIC PRESSURE, (P_s) 4.5 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5 Ftc. SS
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 3
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFFERENCE Δp 6.8

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	2016										
1	0	2016	956.352	0.57	.135	.135	22	39	40			50
1	5	2021	958.390	0.57	.135	.135	22	39	40			50
2	10	2026	961.835	0.57	.135	.135	22	39	40			49
2	15	2031	965.330	0.58	.135	.140	22	39	39			49
1	20	2036	968.950	0.58	.1.40	.140	22	39	39			49
1	25	2041	972.570	0.58	.140	.140	22	38	38			49
2	30	2046	976.190	0.59	.140	.140	"	38	38			49
2	35	2051	979.830	0.59	.140	.140	"	38	38			49
1	40	2056	983.470	0.59	.140	.140	"	38	38			49
1	45	2101	987.100	0.60	.144	.144	"	38	38			49
2	50	2106	990.750	0.60	.144	.144	"	38	38			49
2	55	2111	994.350	0.60	.144	.144	"	38	38			49
1	60	2116	998.019	0.60	.144	.144	"	38	38			50
1	65	2121	01.790	0.60	.144	.144	"	38	38			50
2	70	2126	05.460	0.60	.144	.144	"	38	38			51
2	75	2131	09.140	0.60	.144	.144	"	38	38			51
1	80	2136	12.820	0.60	.144	.144	"	37	37			51
1	85	2141	16.490	0.61	.177	.144	"	37	37			51
2	90	2146	20.160	0.61	.144	.144	"	36	36			51
2	95	2151	23.830	0.61	.144	.144	"	36	36			51
1	100	2156	27.520	0.62	.148	.148	"	36	36			51
1	105	2201	31.260	0.61	.144	.144	"	36	36			51
2	110	2206	34.930	0.61	.144	.144	"	37	37			51
2 COMMENTS:	115	2211	38.610	0.61	.144	.144		37	37			51
2	120	2216	42.250	(stop)	End	test						

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PLANT Sobin Chlor-Alkali
DATE 5/24/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-6
OPERATOR JRC
AMBIENT TEMPERATURE 40°F
BAROMETRIC PRESSURE 29.98
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-6
METER BOX NUMBER Z-2
METER $\Delta H_@$ 1.705
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O manometer CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		PUMP VACUUM, ~~in. Hg~~ INLET PRES. PSIG	SAMPLE BOX-TEMPERATURE, °F OUTLET PRES. PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	579.518										
	0	2015	574.518	1800		0.28	95	43	48	4.0	3.4	<50
	5	2020	583.030	1800		0.28	95	43	48	4.0	3.4	<50
	10	2025	588.385	1795		0.265	95	43	48	4.0	3.4	<50
	15	2030	593.600	1800		0.255	95.5	43	47	4.0	3.4	<50
	20	2035	598.800	1800		0.26	95.5	43	47	4.0	3.4	<50
	25	2040	603.920	1800		0.25	95	43	47	4.0	3.4	<50
	30	2045	609.075	1795		0.255	95	42	46	4.0	3.4	<50
	35	2050	614.120	1800		0.245	95.5	42	46	4.0	3.4	<50
	40	2055	619.135	1800		0.245	95.5	42	46	4.0	3.4	<50
	45	2100	624.155	1800		0.24	95.5	42	46	4.0	3.4	<50
	50	2105	629.150	1800		0.24	95.5	41	45	4.0	3.4	<50
	55	2110	634.240	1800		0.235	95.5	41	45	4.0	3.4	<50
	60	2115	639.155	1800		0.235	95.5	41	45	4.0	3.4	<50
	65	2120	644.090	1795		0.23	95	41	45	4.0	3.4	<50
	70	2125	648.990	1800		0.235	95	41	45	4.0	3.4	<50
	75	2130	653.940	1800		0.24	95	41	45	4.0	3.4	<50
	80	2135	658.705	1795		0.235	96	40	44	4.0	3.4	<50
	85	2140	663.760	1800		0.24	96	40	44	4.0	3.4	<50
	90	2145	668.730	1800		0.235	96	40	44	4.0	3.4	<50
	95	2150	673.665	1795		0.235	95.5	40	44	4.0	3.4	<50
	100	2155	678.810	1795		0.235	95.5	40	44	4.0	3.4	<50
	105	2200	683.610	1800		0.235	95	40	44	4.0	3.4	<50
	110	2205	688.540	1800		0.235	95	40	44	4.0	3.4	<50
COMMENTS:	115	2210	693.585	1800		0.235	95	40	44	4.0	3.4	<50
	120	2215	698.682	1800		0.235	95	40	44	4.0	3.4	<50

EPA (Dur) 235
4 72

END TEST # SCA-6

FIELD

PLANT Sobin
DATE 09/24/74 - 09/25/74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-2
OPERATOR SEB - KKT
AMBIENT TEMPERATURE 37
BAROMETRIC PRESSURE 29.94
STATIC PRESSURE, (P_s) 45 PSIG
FILTER NUMBER (s) -

PROBE LENGTH AND TYPE SPEC - SS
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-3
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.26
PROBE HEATER SETTING -
HEATER BOX SETTING -
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL		INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F			
	0 / 2331	42.250				C					
1	0 - 2331	42.250	0.62	0.148	0.148	2.2°	35	35		45	
1	5 - 2336	45.200	0.62	0.148	0.148	"	35	35		45	
2	10 - 2341	48.950	0.62	0.148	0.148	"	35	35		45	
2	15 - 2346	52.710	0.62	0.148	0.148		35	35		45	
1	20 - 2351	56.430	0.62	0.148	0.148		35	35		45	
1	25 - 2356	60.222	0.62	0.148	0.148		35	35		45	
2	30 - 0001	63.865	0.62	0.148	0.148		35	35		45	
2	35 - 0006	67.590	0.61	0.146	0.146		35	35		45	
1	40 - 0011	71.330	0.61	0.146	0.146		35	34		45	
1	45 - 0016	75.060	0.61	0.146	0.146		35	34		46	
2	50 - 0021	78.810	0.61	0.146	0.146		35	34		46	
2	55 - 0026	82.520	0.61	0.146	0.146		35	35		46	
1	60 - 0031	86.260	0.61	0.146	0.146		35	34		47	
1	65 - 0036	89.990	0.60	0.144	0.144		35	34		47	
2	70 - 0041	93.740	0.61	0.146	0.146		35	34		47	
2	75 - 0046	97.500	0.61	0.146	0.146		35	34		47	
1	80 - 0051	101.350	0.61	0.146	0.146		34	34		48	
1	85 - 0056	105.120	0.60	0.144	0.144		35	34		48	
2	90 - 0101	108.800	0.60	0.144	0.144		35	34		48	
2	95 - 0106	112.510	0.60	0.144	0.144		35	34		47	
1	100 - 0111	116.200	0.60	0.144	0.144		35	34		47	
1	105 - 0116	119.825	0.60	0.144	0.144		35	34		47	
2	110 - 0121	123.530	0.60	0.144	0.144		35	34		46	
COMMENTS: 2	115 - 0126	127.290	0.60	0.144	0.144		35	34		46	
2	120 - 0131	130.991	END	TEST						46	

EPA (Dw) 235
4 72

PLANT Sobin Chlor-Alkali
DATE 9/24/74 - 9/25/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA ~~[illegible]~~ - 8
OPERATOR JRC & SPW
AMBIENT TEMPERATURE 37-F
BAROMETRIC PRESSURE 29.94
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-6
METER BOX NUMBER 2-2
METER $\Delta H_@$ 1.765
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD ~~(Δp_s), in. H_2O~~ manometer CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRES. PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0		698.682									
	0	2328	698.682	1800		0.24	95	38	42	4.0	3.4	<50
	5	2333	702.695	1800		0.24	95	38	42	4.0	3.4	<50
	10	2338	707.570	1800		0.23	95	38	42	4.0	3.4	<50
	15	2343	712.430	1800		0.225	95	38	42	4.0	3.4	<50
	20	2348	717.275	1800		0.235	95	38	42	4.0	3.4	<50
	25	2353	722.100	1800		0.23	95	38	40	4.0	3.4	<50
	30	2358	726.930	1800		0.215	95	38	40	4.0	3.4	<50
	35	0003	731.820	1800		0.225	95	38	40	4.0	3.4	<50
	40	0008	736.770	1800		0.23	95	38	40	4.0	3.4	<50
	45	0013	741.685	1800		0.23	95	38	40	4.0	3.4	<50
	50	0018	748.810	1800		0.23	95	38	40	4.0	3.4	<50
	55	0023	751.565	1800		0.23	95.5	38	40	4.0	3.4	<50
	60	0028	756.087	1800		0.20	95.5	38	40	4.0	3.4	<50
	65	0033	761.340	1800		0.23	95.5	38	40	4.0	3.4	<50
	70	0038	766.295	1800		0.23	95.5	38	40	4.0	3.4	<50
	75	0043	771.405	1800		0.23	95.5	38	40	4.0	3.4	<50
	80	0048	776.215	1800		0.23	95.5	38	40	4.0	3.4	<50
	85	0053	781.106	1800		0.23	95.5	38	40	4.0	3.4	<50
	90	0058	786.010	1800		0.23	95.5	38	40	4.0	3.4	<50
	95	0103	791.900	1800		0.23	95.5	38	40	4.0	3.4	<50
	100	0108	795.915	1800		0.23	95.5	38	40	4.0	3.4	<50
	105	0113	800.755	1800		0.23	95.0	37	37	4.0	3.4	<50
	110	0118	805.705	1800		0.23	95.0	38	39	4.0	3.4	<50
	115	0123	810.620	1800		0.225	95.0	38	39	4.0	3.4	<50
	120	0128	815.637	End test								

COMMENTS:

EPA (Dur) 235
4 72

FIELD [illegible]

PLANT SOBIN
DATE 25 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE HG
RUN NUMBER SCA-9
OPERATOR KKThompson
AMBIENT TEMPERATURE 34
BAROMETRIC PRESSURE 29.90
STATIC PRESSURE, (P_s) 45 PSIG
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-33
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CC-3
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.26
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	DRY GAS METER TEMPERATURE OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
	0	0243	130.991				C					
1	0	0243	130.991	0.59	0.142	0.142	22°	34	33		42	
1	5	0248	133.900	0.59	0.142	0.142	"	34	33		42	
2	10	0253	137.490	0.59	0.142	0.142	"	34	33		42	
2	15	0258	141.020	0.60	0.144	0.144		34	33		43	
1	20	0303	144.690	0.60	0.144	0.144		34	33		44	
1	25	0308	148.310	0.60	0.144	0.144		34	33		44	
2	30	0313	151.920	0.60	0.144	0.144		34	33		44	
2	35	0318	155.570	0.60	0.144	0.144		34	33		44	
1	40	0323	159.200	0.59	0.142	0.142		34	33		44	
1	45	0328	162.915	0.60	0.144	0.144		34	33		46	
2	50	0333	166.450	0.60	0.144	0.144		34	33		47	
2	55	0338	170.040	0.59	0.142	0.142		34	39		47	
1	60	0343	173.605	0.59	0.142	0.142		34	33		48	
1	65	0348	177.190	0.59	0.142	0.142		34	33		48	
2	70	0353	180.765	0.60	0.144	0.144		34	33		48	
2	75	0358	184.400	0.59	0.142	0.142		34	33		49	
1	80	0403	188.040	0.59	0.142	0.142		34	33		49	
1	85	0408	191.600	0.59	0.142	0.142		34	33		51	
2	90	0413	195.220	0.60	0.144	0.144		34	33		52	
2	95	0419	198.860	0.60	0.144	0.144		34	33		51	
1	100	0423	202.470	0.59	0.142	0.142		34	33		51	
1	105	0428	206.035	0.59	0.142	0.142		34	33		51	
2	110	0433	209.715	0.60	0.144	0.144		34	33		53	
[illegible]	115	0438	213.330	0.60	0.144	0.144		34	33		53	
2	120	0443	217.972	END	TEST			34	33		53	

COMMENTS:

EPA (Dur) 235
4 72

PLANT Sobin Chlor-Alkali
DATE 9/23/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-10
OPERATOR SPwo
AMBIENT TEMPERATURE 34°F
BAROMETRIC PRESSURE 29.90
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-6
METER BOX NUMBER 3-3
METER $\Delta H_@$ 1.703
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg Inlet Prob PSIG	~~SAMPLE BOX~~ TEMPERATURE, °F Outlet Prob PSIG	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	Inlet	INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
		815.637	1800								
	0 - 0240	815.637	240		.240	95.5	36	39	40	3.4	<50
	5 - 0245	820.020	1800		.220	95.5	36	39	4.0	3.4	<50
	10 0250	825.815	1800		.230	95.5	36	37	4.0	3.4	<50
	15 - 0255	829.715	1800		.235	95.0	36	39	40	3.4	<50
	20 - 0300	834.575	1800		.230	95.0	36	39	4.0	3.4	<50
	25 - 0305	839.400	1800		.230	95.0	35	37	4.0	3.4	<50
	30 - 0310	844.305	1800		.230	95.0	36	38	4.0	3.4	<50
	35 - 0315	849.115	1800		.235	95.0	36	38	4.0	3.4	<50
	40 - 0320	854.015	1800		.220	95.0	36	38	4.0	3.4	<50
	45 - 0325	858.850	1800		.220	95.0	36	38	4.0	3.4	<50
	50 0330	863.720	1800		.235	95.0	36	38	4.0	3.4	<50
	55 - 0335	868.600	1800		.230	95.0	36	38	4.0	3.4	<50
	60 - 0340	873.488	1800		.230	95.0	36	38	4.0	3.4	<50
	65 - 0345	878.205	1800		.225	95.0	36	38	4.0	3.4	<50
	70 - 0350	883.005	1800		.230	95.0	36	38	4.0	3.4	<50
	75 - 0355	887.815	1800		.230	95.0	36	38	4.0	3.4	<50
	80 - 0400	892.580	1800		.225	95.0	36	38	4.0	3.4	<50
	85 - 0405	897.475	1800		.230	95.5	36	38	4.0	3.4	<50
	90 - 0410	902.433	1800		.235	95.5	36	38	4.0	3.4	<50
	95 - 415	907.295	1800		.230	95.5	36	38	4.0	3.4	<50
	100 - 0420	912.258	1800		.235	95.5	36	38	4.0	3.4	<50
	105 - 0425	917.190	1800		.235	95.5	36	38	4.0	3.4	<50
	110 - 0430	922.000	1800		.240	95.5	36	38	4.0	3.4	<50
COMMENTS:	115 - 0435	926.895	1800		.230	95.5	36	38	3.9	34	<50
	120 0440	931.860	End	test							

EPA (Dur) 235
4 72

FIELD

PLANT 303IN
DATE 25 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SSA-11
OPERATOR KK THOMPSON
AMBIENT TEMPERATURE 34°F
BAROMETRIC PRESSURE 29.90
STATIC PRESSURE, (P_s) 4.5 Hg
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-SS.
NOZZLE I.D. 0.12 in.
ASSUMED MOISTURE, % <3
SAMPLE BOX NUMBER U-3
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.94
C FACTOR 1.26
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0 / 0536	216.971				"C"					
1	0 - 0536	216.971	0.59	0.142	0.142	22	34	33		43	
1	5 - 0541	219.840	0.59	0.142	0.142	"	34	33		45	
2	10 - 0546	223.370	0.60	0.144	0.144		34	33		49	
2	15 - 0551	227.100	0.59	0.142	0.142		34	33		50	
1	20 - 0556	230.640	0.59	0.142	0.142		34	33		50	
1	25 - 0601	234.255	0.59	0.142	0.142		34	33		51	
2	30 - 0606	237.875	0.59	0.142	0.142		34	33		52	
2	35 - 0611	241.500	0.60	0.144	0.144		34	33		55	
1	40 - 0616	245.160	0.60	0.144	0.144		34	33		54	
1	45 - 0621	248.830	0.60	0.144	0.144		34	33		54	
2	50 - 0626	252.540	0.60	0.144	0.144		34	33		55	
2	55 - 0631	256.180	0.60	0.144	0.144		34	33		55	
1	60 - 0636	259.835	0.60	0.144	0.144		34	33		56	
1	65 - 0641	263.490	0.59	0.142	0.142		34	33		56	
2	70 - 0646	267.140	0.59	0.142	0.142		34	33		56	
2	75 - 0651	270.760	0.59	0.142	0.142		34	33		57	
1	80 - 0656	274.375	0.59	0.142	0.142		34	33		57	
1	85 - 0701	277.970	0.59	0.142	0.142		34	33		58	
2	90 - 0706	281.585	0.59	0.142	0.142		34	33		58	
2	95 - 0711	285.240	0.59	0.142	0.142		34	33		58	
1	100 - 0716	288.825	0.59	0.142	0.142		35	33		58	
1	105 - 0721	292.450	0.59	0.142	0.142		36	34		58	
2	110 - 0726	296.070	0.59	0.142	0.142		36	34		58	
COMMENTS: 2	115 - 0731	299.695	0.59	0.142	0.142		36	34		59	
2	120 - 0736	303.337	END	TEST			36	34		59	

EPA (Dur) 235
4 72

FIELD

PLANT Sobin Chlor-Alkali
DATE 9/25/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER CSA-12
OPERATOR SFW
AMBIENT TEMPERATURE 34° F
BAROMETRIC PRESSURE 24.89
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-6
METER BOX NUMBER Zorn 2
METER $\Delta H_@$ 1.705
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O Manometer CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM~~	SAMPLE BOX TEMPERATURE	IMPINGER TEMPERATURE, °F
			1800	DESIRED	ACTUAL	Inlet	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	Inlet PSIG	Outlet PSIG	
	0 - 0535	931.860	[illegible]		.200	95.5	35	37	3.8	3.3	<50
	5 - 0540	936.000	1800		.235	95.5	35	37	3.8	3.3	<50
	10 - 0545	941.915	1800		.230	95.5	35	37	3.9	3.3	<50
	15 - 0550	945.790	1800		.225	95.0	35	37	3.9	3.3	<50
	20 - 0555	950.585	1800		.235	95.0	35	37	3.9	3.3	<50
	25 - 0600	955.625	1800		.235	95.0	35	37	3.9	3.3	<50
	30 - 0605	960.577	1790		.235	95.5	35	37	3.9	3.3	<50
	35 - 0610	965.525	1790		.235	95.5	35	37	3.9	3.3	<50
	40 - 0615	970.444	1790		.235	95.5	35	37	3.9	3.3	<50
	45 - 0620	975.378	1790		.235	95.5	35	37	3.9	3.3	<50
	50 - 0625	980.315	1790		.235	95.5	35	37	3.9	3.3	<50
	55 - 0630	985.236	1800		.235	95.5	34	36	3.9	3.3	<50
	60 - 0635	990.105	1790		.235	95.5	34	36	3.9	3.3	<50
	65 - 0640	995.005	1790		.230	95.5	34	37	3.9	3.3	<50
	70 - 0645	999.955	1790		.230	95.5	34	37	3.9	3.3	<50
	75 - 0650	4.885	1790		.230	95.5	34	37	3.4	3.3	<50
	80 - 0655	9.878	1790		.230	95.6	34	37	3.9	3.3	<50
	85 - 0700	14.715	1790		.235	95.5	34	37	3.9	3.2	<50
	90 - 0705	19.623	1790		.235	95.5	34	37	3.9	3.2	<50
	95 - 0710	24.578	1790		.235	96.5	34	37	3.9	3.2	<50
	100 - 0715	29.473	1790		.230	95.5	35	37	3.9	3.2	<50
	105 - 0720	34.590	1790		.290	95.6	35	37	3.9	3.2	<50
	110 - 0725	39.445	1790		.235	95.5	35	37	3.9	3.2	<50
COMMENTS:	115 0730	44.310	1790		.235	95.5	35	37	3.9	3.2	<50
	120 - 0735	49.419	End	test							

EPA (Dur) 235
4/72

FIELD

PLANT SOBIN
DATE 9-25-74
SAMPLING LOCATION INLET
SAMPLE TYPE H2
RUN NUMBER SCA-13
OPERATOR JTC
AMBIENT TEMPERATURE 45°F
BAROMETRIC PRESSURE 29.55
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE Special SS
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3%
SAMPLE BOX NUMBER
METER BOX NUMBER ES 1
METER $\Delta H_@$ 1.95
C FACTOR 1.00
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE INLET $(T_{m\,in})$, °F	DRY GAS METER TEMPERATURE OUTLET $(T_{m\,out})$, °F	PUMP VACUUM, in. Hg	SAMPLE-BOX TEMPERATURE, °F STACK STATIC PRES psig	IMPINGER TEMPERATURE, °F
1	0	0840	303.331	0.58	0.140	0.120	21.5	40	40		4.4	45
1	5	0845	305.510	0.58	0.140	0.140	21.5	41	39		4.4	48
2	10	0850	308.320	0.58	0.140	0.140	21.5	43	41		4.4	48
2	15	0855	311.925	0.58	.140	.140	21.5	45	43		4.4	48
1	20	0900	315.560	0.58	.140	.140	21.5	47	45		4.4	50
1	25	0905	319.280	0.58	.140	.140	21.5	49	48		4.4	48
2	30	0910	322.800	0.57	.137	.137	21.5	49	49		4.4	48
[illegible]	35	0915	326.320	0.57	.137	.137	21.5	49	49		4.4	48
1	40	0920	329.890	0.55	.140	.140	21.5	50	50		4.4	48
1	45	0925	333.475	0.57	.137	.137	21.5	51	50		4.4	48
2	50	0930	337.065	0.57	.137	.137	21.5	51	51		4.4	48
2	55	0935	340.650	0.57	.137	.137	21.5	51	51		4.4	48
1	60	0940	344.220	0.57	.137	.137	21.5	51	51		4.4	50
1	65	0945	347.800	0.57	.137	.137	21.5	51	51		4.4	52
2	70	0950	351.390	0.57	.137	.137	21.5	51	51		4.4	52
2	75	0955	354.970	0.57	.137	.137	21.5	53	52		4.4	52
7	80	1000	358.510	0.57	.137	.137	21.5	53	53		4.4	52
1	85	1005	362.110	0.57	.137	.137	21.5	53	53		4.4	52
2	90	1010	365.710	0.57	.137	.137	21.5	53	53		4.4	52
2	95	1015	369.300	0.58	.140	.140	21.5	53	53		4.4	52
1	100	1020	372.940	0.57	.137	.140	21.5	53	53		4.4	52
1	105	1025	376.570	0.57	.140	.140	21.5	54	53		4.4	54
2	110	1030	380.160	0.57	.140	.140	21.5	54	54		4.4	56
COMMENTS 2	115	1035	383.750	0.57	.140	.140	21.5	55	54		4.4	56
2	120	1040	387.540									

PLANT Joa. N
DATE 7/24/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER SCA-14
OPERATOR DJD
AMBIENT TEMPERATURE 35°F
BAROMETRIC PRESSURE 29.85
STATIC PRESSURE, (P_s) NA
FILTER NUMBER (s) NA

PROBE LENGTH AND TYPE NA
NOZZLE I.D. NA
ASSUMED MOISTURE, % NA
SAMPLE BOX NUMBER #6
METER BOX NUMBER #2
METER $\Delta H_@$ 1.705
C FACTOR NA
PROBE HEATER SETTING NA
HEATER BOX SETTING NA
REFERENCE Δp NA

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP-VACUUM~~, in. Hg INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	0845	049.420	18.. ~~25~~		.25	95.5	38	40	4.0	3.4	50
	5	0850	054.45	1790		.23	95.5	38	40	4.0	3.4	50
	10	0855	059.26	1800		.21	96.0	38	40	4.0	3.4	50
	15	0900	064.29	1800		.23	96.0	40	42	4.0	3.4	55
	20	0905	069.24	1790		.22	96.0	40	42	4.0	3.4	55
	25	0910	073.75	1790		.22	96.0	42	44	4.0	3.4	55
	30	0915	078.64	1790		.22	96.0	42	44	4.0	3.4	55
	35	0920	083.60	1800		.23	46.0	44	44	4.0	3.4	55
	40	0925	088.51	1800		.23	96.0	44	46	4.0	3.4	55
	45	0930	093.41	1800		.23	96.0	44	46	4.0	3.4	55
	50	0935	098.35	1800		.23	96.0	44	46	4.0	3.4	55
	55	0940	103.32	1800		.23	96.0	46	46	4.0	3.4	55
	60	0945	106.78	1800		.23	96.0	46	46	4.0	3.4	55
	65	0950	110.69	1800		.23	96.0	48	48	4.0	3.4	55
	70	0955	115.61	1800		.23	96.0	50	50	4.0	3.4	55
	75	1000	120.48	1800		.23	96.0	50	50	4.0	3.4	55
	80	1005	125.45	1800		.22	96.0	50	50	4.0	3.4	55
	85	1010	130.38	1800		.22	96.0	50	52	4.0	3.4	55
	90	1015	135.40	1800		.23	95.5	50	52	4.0	3.4	55
	95	1020	140.48	1810		.23	95.0	52	52	4.0	3.4	55
	100	1025	145.55	1810		.23	95.5	52	54	4.0	3.4	55
	105	1030	150.67	1800		.23	95.5	52	54	4.0	3.4	60
	110	1035	155.83	1810		.23	95.5	53	55	4.0	3.4	60
	115	1040	161.01	1810		.23	95.5	53	55	4.0	3.4	60
	120	1045	166.21	1810		.23	95.5	63	55	4.0	3.4	60

COMMENTS:

EPA (Dur) 235
4 72

FIELD D

PLANT SOBIN
DATE 9/25/74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-15
OPERATOR J.TC.
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.85
STATIC PRESSURE, (P_s) 4.4
FILTER NUMBER (s) NO

PROBE LENGTH AND TYPE
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % .3
SAMPLE BOX NUMBER
METER BOX NUMBER #1
METER $\Delta H_@$ 1.980
C FACTOR 1.27
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS ([illegible])	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
1	0	1143	387.540	0.57	.140	.140	21.5	56	56		4.4	56
1	5	1148	390.420	.57	.140	.140	21.5	56	55		4.4	54
2	10	1153	394.080	.57	.140	.140	21.5	56	55		4.5	52
2	15	1158	397.800	.57	.140	.140	21.5	56	55		4.4	52
1	20	1203	401.510	.57	.140	.140	21.5	56	55		4.4	52
1	25	1208	405.200	.57	.140	.140	21.5	56	55		4.4	50
2	30	1213	408.975	.57	.140	.140	21.5	56	55		4.4	50
2	35	1218	412.680	.57	.140	.140	21.5	56	55		4.4	50
1	40	1223	416.430	.57	.140	.140	21.5	56	55		4.4	50
1	45	1228	420.150	.57	.140	.140	21.5	56	55		4.4	50
2	50	1233	423.865	.57	.140	.140	21.5	57	55		4.4	50
2	55	1238	427.600	.57	.140	.140	21.5	57	55		4.4	50
1	60	1243	431.350	.57	.140	.140	21.5	57	55		4.4	50
1	65	1248	435.040	.57	.140	.140	21.5	59	56		4.4	52
2	70	1253	438.780	.57	.140	.140	21.5	60	57		4.4	52
2	75	1258	442.480	.57	.140	.140	21.5	60	57		4.4	52
1	80	1303	446.180	.57	.140	.140	21.5	60	58		4.4	52
1	85	1308	449.900	.57	.140	.140	21.5	60	58		4.4	52
2	90	1313	453.630	.57	.140	.140	21.5	59	58		4.4	52
2	95	1318	457.340	.57	.140	.140	21.5	58	58		4.4	52
1	100	1323	461.060	.57	.140	.140	21.5	58	57		4.4	52
1	105	1328	464.800	.58	.143	.140	21.5	58	57		4.7	54
2	110	1333	468.420	.58	.143	.143	21.5	58	57		4.2	54
COMMENTS: 2	115	1338	472.170	.57	.140	.140	21.5	58	57		4.4	54
2	120	1343	475.917	END	TEST	#15						

EPA (Dur) 235
4 72

FIELD D

PLANT Sobin
DATE 9/25/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-16
OPERATOR DJD
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.95
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER #6
METER BOX NUMBER Z-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	DRY GAS METER TEMPERATURE OUTLET ($T_{m\,out}$), °F	~~PUMP VACUUM,~~ in. Hg INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE,~~ °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
	0	1143	166.407	1800		.23	95.5	56	58	4.0	3.4	50
	5	1148	170.76	1800		.23	95.5	56	58	4.0	3.4	50
	10	1153	175.90	1800		.23	95.5	56	58	4.0	3.4	50
	15	1158	181.09	1800		.24	95.5	56	58	4.0	3.4	50
	20	1203	186.19	1800		.23	95.5	56	58	4.0	3.4	50
*	26	1209	191.48	1800		.23	95.5	56	58	4.0	3.4	50
	30	1213	196.49	1800		.23	95.5	56	58	4.0	3.4	50
	35	1218	201.40	1800		.23	95.5	56	58	4.0	3.4	50
	40	1223	206.41	1800		.23	95.5	56	58	4.0	3.4	50
	45	1228	211.50	1790		.23	95.5	56	58	4.0	3.4	50
	50	1233	216.58	1790		.22	95.5	56	58	4.0	3.4	55
	55	1238	221.65	1800		.22	95.5	56	58	4.0	3.4	55
	60	1243	226.70	1790		.23	95.5	56	58	4.0	3.4	55
	65	1248	231.71	1790		.22	96.0	56	58	4.0	3.4	55
	70	1253	236.71	1790		.22	96.0	56	58	4.0	3.4	55
	75	1258	241.75	1800		.23	96.0	56	58	4.0	3.4	55
	80	1303	246.88	1790		.22	95.5	56	58	4.0	3.4	55
	85	1308	251.81	1800		.22	95.5	56	58	4.0	3.4	55
	90	1313	256.91	1800		.23	95.5	56	58	4.0	3.4	55
	95	1318	262.05	1800		.23	95.5	56	58	4.0	3.4	55
	100	1323	267.18	1800		.23	96.5	56	58	4.0	3.4	55
	105	1328	272.26	1800		.23	95.5	56	58	4.0	3.4	55
	110	1333	277.36	1800		.22	96.0	56	58	4.0	3.4	55
COMMENTS:	115	1338	282.59	1790		.22	95.5	56	58	4.0	3.4	55
	120	1343	287.45	END								

EPA (Dur) 235
4 72

FIELD D

PLANT SOBIN
DATE 9-25-74
SAMPLING LOCATION INLET
SAMPLE TYPE H
RUN NUMBER SCA-17
OPERATOR JEC
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.62
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE Spec SS
NOZZLE I.D. 0.12
ASSUMED MOISTURE, % .3
SAMPLE BOX NUMBER
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.24
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS (psig)	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	1500	475.920	.57	.140	.140	21.5	58	58		4.4	58
1	5	1505	~~48~~ 478.520	.57	.140	.140	21.5	59	57		4.4	56
2	10	1510	482.190	.57	.140	.140	21.5	59	57		4.4	54
2	15	1515	485.710	.57	.140	.140	21.5	59	57		4.4	52
1	20	1520	489.390	.57	.140	.140	21.5	58	57		4.4	52
1	25	1525	493.130	.57	.140	.140	21.5	58	57		4.4	52
2	30	1530	496.870	.57	.140	.143	21.5	58	57		4.4	52
2	35	1535	500.580	.57	.140	.140	21.5	58	57		4.4	52
1	40	1540	504.300	.57	.140	.140	21.5	58	57		4.4	52
1	45	1545	508.000	.57	.140	.140	21.5	58	57		4.4	52
2	50	1550	511.740	.57	.140	.140	21.5	58	57		4.4	52
2	55	1555	515.450	.56 ①	.137	.137	21.5	58	57		4.4	50
1	60	1600	519.170	.56	.137	.137	21.5	58	57		4.4	50
1	65	1605	522.890	.56	.137	.137	21.5	58	57		4.4	50
2	70	1610	526.670	.55	.135	.135	21.5	59	57		4.4	50
2	75	1615	530.260	.55	.135	.135	21.5	59	57		4.4	50
1	80	1620	533.930	.55	.135	.135	21.5	59	57		4.4	50
1	85	1625	537.590	.55	.135	.135	21.5	59	58		4.4	52
2	90	1630	541.250	.55	.135	.135	21.5	60	58		4.4	52
2	95	1635	544.930	.55	.135	.135	21.5	60	58		4.4	52
1	100	1640	548.600	.56	.138	.138	21.5	60	58		4.4	52
1	105	1645	552.300	.57 ②	.140	.140	21.5	60	58		4.4	52
2	110	1650	556.040	~~.45~~ .40	.198	.100	21.5	59	58		4.4	52
COMMENTS: 2	115	1655	559.500	.45	.110	.115	21.5	59	58		4.4	52
2	120	1700	563.833	END	TEST							

EPA (Dur) 235
4 72

① Rezero Pitot manometer
② 1648 - Start sieve changeover

FIELD D

PLANT Sobin
DATE 9/24/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-18
OPERATOR DJD
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.62
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER # 2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	DRY GAS METER TEMPERATURE OUTLET ($T_{m\,out}$), °F	~~PUMP VACUUM~~, in. Hg INLET PRESS. PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
	0	1500	287.722	1775		.22	95.5	56	58	4.0	3.4	
	5	1505	292.48	1775		.23	95.5	56	58	4.0	3.3	50
	10	1510	297.47	1780		.22	95.5	56	58	4.0	3.3	50
	15	1515	302.49	1780		.22	96.0	56	58	4.0	3.3	50
	20	1520	307.55	1775		.23	96.0	56	59	4.0	3.3	50
	25	1525	312.64	1780		.22	95.5	56	58	4.0	3.3	50
	30	1530	317.71	1780		.22	95.5	56	58	4.0	3.3	50
	35	1535	322.80	1780		.22	95.5	56	58	4.0	3.3	30
	40	1540	327.78	1780		.22	95.5	56	58	4.0	3.3	50
	45	1545	332.09	1780		.22	95.5	56	58	4.0	3.3	50
	50	1550	337.89	1780		.22	95.5	56	58	4.0	3.3	50
	55	1555	343.01	1775		.82	95.5	56	58	4.0	3.3	55
	60	1600	348.09	1775		.22	95.5	56	59	4.0	3.3	55
	65	1605	353.10	1775		.22	95.0	56	59	4.0	3.3	55
	70	1610	358.21	1775		.22	95.0	56	59	4.0	3.3	55
	75	1615	363.25	1775		.22	95.0	56	54	4.0	3.3	55
	80	1620	368.16	1780		.29	95.0	56	58	4.0	3.3	55
	85	1625	373.20	1780		.23	95.5	56	58	4.0	3.3	55
	90	1630	378.14	1780		.22	95.5	56	58	4.0	3.3	55
	95	1635	383.29	1780		.22	95.5	56	59	4.0	3.3	55
	100	1640	388.31	1780		.22	95.6	56	58	4.0	3.3	56
	105	1645	393.34	1780		.22	95.5	56	58	4.0	3.3	55
	*110	1650	398.23	1500		.22	95.5	56	59	4.0	3.3	55
	115	1655	403.64	~1500		.24	95.6	56	58	4.0	3.3	55
	120	1700	408.82	END		.24	95.0	56	58	4.0	3.3	55

COMMENTS:

EPA (Dur) 235
4 72

* Sieve Changeover

FIELD

PLANT Sohio
DATE 1-25-79
SAMPLING LOCATION Inlet
SAMPLE TYPE 19
RUN NUMBER SC4 19
OPERATOR [illegible]
AMBIENT TEMPERATURE 55°F
BAROMETRIC PRESSURE 29.60
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. 35
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER SC-5
METER BOX NUMBER EC-I
METER $\Delta H_@$ 1.98
C FACTOR ~~[illegible]~~ 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE~~, °F (imp. Temp.)	IMPINGER TEMPERATURE, °F ↙
					DESIRED	ACTUAL	"C°"	INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	1704	562.833									
1	0	1704	562.833	0.57	.140	.140	21.5	59	59		58	
1	5	1709	566.020	0.57	.140	.140	21.5	59	59		58	
2	10	1714	569.690	0.57	.140	.140	21.5	59	59		58	
2	15	1719	573.425	0.57	.140	.140	21.5	59	59		58	
1	20	1724	577.100	0.57	.140	.140	21.5	59	59		56	
1	25	1729	580.775	0.57	.140	.140	21.5	58	58		56	
2	30	1734	584.480	0.57	.140	.140	21.5	58	58		56	
2	35	1739	588.175	0.57	.140	.140	21.5	58	58		56	
1	40	1744	591.870	0.57	.140	.140	21.5	58	58		56	
1	45	1749	595.560	0.57	.140	.140	21.5	58	58		55	
2	50	1754	599.240	0.56	.135	.135	21.5	58	58		55	
2	55	1759	602.930	0.57	.140	.140	21.5	58	58		55	
1	60	1804	606.630	0.57	.140	.140	21.5	58	58		55	
1	65	1809	~~609~~ 610.350	0.57	.140	.140	21.5	58	58		55	
2	70	1814	614.050	0.57	.140	.140	21.5	58	58		56	
2	75	1819	617.760	0.57	.140	.140	21.5	59	59		56	
1	80	1824	621.460	0.57	.140	.140	21.5	59	59		58	
1	85	1829	625.180	0.57	.140	.140	21.5	59	59		58	
2	90	1834	628.890	0.57	.140	.140	21.5	60	59		58	
2	95	1839	632.590	0.57	.140	.140	21.5	60	59		58	
1	100	1844	636.300	0.57	.140	.140	21.5	60	59		58	
1	105	1849	640.020	0.57	.140	.140	21.5	60	59		58	
2	110	1854	643.740	0.58	.140	.140	21.5	60	59		58	
2 COMMENTS	115	1859	647.460	0.58	.140	.140	21.5	60	59		58	
2	120	1904	651.177	(Stop)	End	Test						

EPA (Dur) 235
4/72

FIEL

PLANT Sobin Chlor-Alkali
DATE 9/25/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-20
OPERATOR URC
AMBIENT TEMPERATURE 55 → 53
BAROMETRIC PRESSURE 29.60
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp), in. H_2O~~ MANOMETER CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES. PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0		408.820									
	0	1703	408.820	1780		0.22	95	55	58	4.0	3.4	52
	5	1708	412.680	1780		0.22	95	55	58	4.0	3.4	52
	10	1713	417.720	1780		0.225	95	55	58	4.0	3.3	50
	15	1718	422.835	1780		0.225	95.5	55	58	4.0	3.3	50
	20	1723	427.875	1780		0.215	95.5	55	58	4.0	3.3	50
	25	1728	432.925	1775		0.22	96	55	58	4.0	3.3	50
	30	1733	437.930	1790		0.215	96	55	58	4.0	3.3	50
	35	1738	443.045	1790		0.225	96	55	58	4.0	3.3	50
	40	1743	448.140	1790		0.225	95.5	55	58	4.0	3.3	50
	45	1748	453.210	1790		0.22	95.5	55	58	4.0	3.3	50
	50	1753	458.240	1780		0.215	95.5	55	58	4.0	3.3	50
	55	1758	463.325	1790		0.225	95.5	55	58	4.0	3.3	50
	60	1803	468.360	1790		0.22	95.5	55	58	4.0	3.3	50
	65	1808	473.385	1790		0.22	95.5	55	58	4.0	3.3	50
	70	1813	478.310	1785		0.21	95.5	55	58	4.0	3.3	50
	75	1818	483.265	1795		0.21	95	55	58	4.0	3.3	50
	80	1823	488.170	1795		0.205	95	55	58	4.0	3.3	50
	85	1828	493.130	1790		0.21	95.5	55	58	4.0	3.3	50
	90	1833	498.035	1790		0.21	95.5	55	58	4.0	3.3	50
	95	1838	502.990	1795		0.205	95	55	58	4.0	3.3	50
	100	1843	507.895	1790		0.21	95	55	58	4.0	3.3	50
	105	1848	512.855	1785		0.21	95.5	54	57	4.0	3.3	50
	110	1853	517.820	1785		0.215	95	54	57	4.0	3.3	50
COMMENTS:	115	1858	522.765	1790		0.21	95	54	57	4.0	3.3	50
	120	1903	527.725	1790		0.21	95	54	57	4.0	3.3	50

END TEST # SCA-20

EPA (Dur) 235
4/72

FIE

PLANT Scb.N
DATE 9-25-77
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA 21
OPERATOR Sab
AMBIENT TEMPERATURE 52°F
BAROMETRIC PRESSURE 29.50
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. SS
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR ~~1.26~~ 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp —

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE ~~(T_s), °F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	1953	651.177									
1	0	1953	651.177	0.57	.140	.140	21.5	59	58	–	–	55
1	5	1958	654.076	0.57	.140	.140	21.5	57	59			55
2	10	2003	657.710	0.57	.140	.140	21.5	59	58			55
2	15	2008	661.390	0.57	.140	.140	21.5	58	58			55
1	20	2013	665.090	0.57	.140	.140	21.5	58	58			55
1	25	2018	668.760	0.57	.140	.140	21.5	58	58			55
2	30	2023	672.500	0.57	.140	.140	21.5	58	58			55
2	35	2028	676.230	0.57	.140	.140	21.5	58	58			55
1	40	2033	679.990	0.57	.140	.140	21.5	58	58			55
1	45	2038	683.725	0.57	.140	.140	21.5	58	58			55
2	50	2043	687.470	0.51	.140	.140	21.5	58	58			56
2	55	2048	691.210	0.57	.140	.140	21.5	58	58			56
1	60	2053	694.960	0.57	.140	.140	21.5	58	58			56
1	65	2058	698.700	0.57	.140	.140	21.5	58	58			56
2	70	2103	702.480	0.57	.140	.140	21.5	58	58			58
2	75	2108	706.230	0.57	.140	.140	21.5	58	58			58
1	80	2113	709.990	0.57	.140	.140	21.5	58	58			58
1	85	2118	713.730	0.57	.140	.140	21.5	58	58			58
2	90	2123	717.470	0.57	.140	.140	21.5	54	58			58
2	95	2128	721.220	0.57	.140	.140	21.5	59	58			58
1	100	2133	724.975	0.57	.140	.140	21.5	59	58			58
1	105	2138	728.730	0.57	.140	.140	21.5	59	58			58
2	110	2143	732.480	0.57	.140	.140	21.5	59	58			58
2	115	2148	736.260	0.57	.140	.140	21.5	59	58			58
2	120	2153	740.036	(Stop-	END	test)						

EPA (Dur) 235
4/72

FIEL I

PLANT Sobin Chlor-Alkali
DATE 9/25/74
SAMPLING LOCATION Outlet
SAMPLE TYPE H₂
RUN NUMBER SCA - 22
OPERATOR JPC
AMBIENT TEMPERATURE 52
BAROMETRIC PRESSURE 29.50
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY ~~HEAD (Δp), in. H₂O~~ MANOMETER	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H₂O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES PSIG.	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG.	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	1953	527.725	CFM			INLET					
	0	1953	527.725	1740		0.215	95	52	55	4.0	3.2	50
	5	1958	532.000	1740		0.21	95.5	52	55	4.0	3.3	50
	10	2003	536.840	1740		0.205	95.5	52	55	4.0	3.3	50
	15	2008	541.720	1740		0.205	95.5	52	55	4.0	3.3	50
	20	2013	546.650	1740		0.22	95	52	55	4.0	3.3	50
	25	2018	551.580	1780		0.21	96	52	55	4.0	3.3	50
	30	2023	556.520	1780		0.21	96	52	55	4.0	3.3	50
	35	2028	561.420	1780		0.21	95.5	52	55	4.0	3.3	50
	40	2033	566.345	1780		0.215	95.5	52	55	4.0	3.3	50
	45	2038	571.260	1780		0.215	95.5	51	55	4.0	3.3	50
	50	2043	576.145	1780		0.21	96	51	55	4.0	3.3	50
	55	2048	581.000	1780		0.21	96	51	55	4.0	3.3	50
	60	2053	585.850	1780		0.21	95.5	51	55	4.0	3.3	50
	65	2058	590.690	1780		0.21	95.5	51	55	4.0	3.3	50
	70	2103	595.575	1780		0.21	95.5	51	55	4.0	3.3	50
	75	2108	600.380	1780		0.21	95.5	51	55	4.0	3.3	50
	80	2113	605.245	1780		0.21	95.5	51	55	4.0	3.3	50
	85	2118	610.110	1780		0.21	95.5	51	55	4.0	3.3	50
	90	2123	614.945	1780		0.205	95.5	51	55	4.0	3.3	50
	95	2128	619.750	1780		0.205	95.5	51	55	4.0	3.3	50
	100	2133	624.585	1780		0.205	95.5	51	55	4.0	3.3	50
	105	2138	629.400	1780		0.205	95.5	51	55	4.0	3.3	50
	110	2143	634.200	1780		0.20	95.5	51	55	4.0	3.3	50
COMMENTS:	115	2148	639.030	1780		0.205	95.5	51	55	4.0	3.3	50
	120	2153	643.838	1780			96	51	55	4.0	3.3	50

END TEST # SCA-22

EPA (Dur) 235
4 72

FIE

PLANT Sobin
DATE 9-(25-26)-74
SAMPLING LOCATION inlet
SAMPLE TYPE Hg
RUN NUMBER SCN 23
OPERATOR Sub + KKT
AMBIENT TEMPERATURE 52°F
BAROMETRIC PRESSURE 29.43
STATIC PRESSURE, (P_s) 4.4 psig.
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. SS
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	2246	740.036									
1	0	2246	740.036	0.57	.140	.140	21.5	60	59	–	–	55
1	5	2251	743.010	0.57	.140	.140	21.5	60	59	–	–	55
2	10	2256	746.750	0.57	.140	.140	21.5	60	59	–	–	55
2	15	2301	750.530	0.57	.140	.140	21.5	60	59	–	–	55
1	20	2306	754.320	0.57	.140	.140	21.5	59	59	–	–	55
1	25	2311	758.120	0.57	.140	.140	21.5	59	59	–	–	55
2	30	2316	761.900	0.57	.140	.140	21.5	59	59	–	–	55
2	35	2321	765.700	0.57	.140	.140	21.5	59	59	–	–	56
1	40	2326	769.460	0.57	.140	.140	21.5	59	59	–	–	56
1	45	2331	773.260	0.57	.140	.140	21.5	59	59	–	–	56
2	50	2336	777.050	0.57	.140	.140	21.5	59	59	–	–	56
2	55	2341	780.850	0.57	.140	.140	21.5	59	59	–	–	56
1	60	2346	784.660	0.57	.140	.140	21.5	59	59	–	–	56
1	65	2351	788.480	0.57	.140	.140	21.5	59	59	–	–	56
2	70	2356	792.290	0.57	.140	.140	21.5	59	59	–	–	56
2	75	0001	796.120	0.57	.140	.140	21.5	59	59	–	–	56
1	80	0006	799.975	0.57	0.140	0.140	21.5	59	59			58
1	85	0011	803.595	0.57	0.145	0.145	21.5	60	59			59
2	90	0016	807.580	0.57	0.145	0.145	21.5	60	60			59
2	95	0021	811.400	0.57	0.145	0.145	21.5	60	60			59
1	100	0026	815.220	0.57	0.145	0.145	21.5	60	60			59
1	105	0031	819.080	0.57	0.145	0.145	21.5	60	60			58
2	110	0036	822.915	0.57	0.145	0.145	21.5	60	60			58
COMMENTS: 2	115	0041	826.770	0.57	0.145	0.145	21.5	60	60			58
2	120	0046	830.640	END	TEST							

EPA (Dw) 235
4/72

FIEL r

PLANT Sorin Chlor-Alkali
DATE 9/25/74 – 9/26/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-24
OPERATOR JRC/SPW
AMBIENT TEMPERATURE 52
BAROMETRIC PRESSURE 29.43
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Z-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	~~VELOCITY HEAD (Δp_s), in. H_2O~~ ROTOMETER CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ~~DESIRED~~	ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F	~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES. PSIG	IMPINGER TEMPERATURE, °F
	0		643.838									
	0	2246	643.838	1780		0.24	96	52	55	4.0	3.3	50
	5	2251	648.340	1780		0.225	96	52	55	4.0	3.3	50
	10	2256	653.300	1780		0.215	95.5	52	55	4.0	3.3	50
	15	2301	658.275	1780		0.215	95	52	55	4.0	3.3	50
	20	2306	663.260	1780		0.215	95	52	55	4.0	3.3	50
	25	2311	668.200	1780		0.210	95	52	55	4.0	3.3	50
	30	2316	673.160	1780		0.210	95	52	55	4.0	3.3	50
	35	2321	678.115	1780		0.215	95	52	55	4.0	3.3	50
	40	2326	683.070	1780		0.210	95.5	52	55	4.0	3.3	50
	45	2331	688.030	1780		0.210	95.5	52	55	4.0	3.3	50
	50	2336	692.950	1780		0.210	95.5	52	55	4.0	3.3	50
	55	2341	697.890	1780		0.210	95.5	52	55	4.0	3.3	50
	60	2346	702.825	1780		0.210	95.5	52	55	4.0	3.3	50
	65	2351	707.790	1780		0.215	95.5	52	55	4.0	3.3	50
	70	2356	712.715	1780		0.215	95.5	52	55	4.0	3.3	50
	75	0001	717.630	1780		0.210	96	52	55	4.0	3.3	50
	80	0006	721.560	1780		0.215	95.5	52	55	4.0	3.3	50
	85	0011	727.470	1780		0.215	95.5	52	55	4.0	3.3	50
	90	0016	732.405	1780		0.215	95.5	52	55	4.0	3.3	50
	95	0021	737.375	1780		0.215	95.0	52	55	4.0	3.3	50
	100	0026	742.315	1780		0.215	95.0	52	55	4.0	3.3	55
	105	0031	747.280	1780		0.215	95.0	52	55	4.0	3.3	55
	110	0036	752.310	1780		0.220	95.0	52	55	4.0	3.3	55
COMMENTS:	115	0041	757.435	1780		0.220	95.0	52	55	4.0	3.3	55
	120	0046	762.548									

EPA (Dur) 235
4/72

NOTE: ~~At~~ AT RUN START, SEVERAL DARK DROPS WERE OBSERVED RUNNING DOWN TEFLON SAMPLING LINE INTO 1ST IMPINGER; SAMPLE LINE HAD BEEN PURGED PRIOR TO COMMENCING TEST. — JRC

FIE

PLANT SOBIN
DATE 25 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-25
OPERATOR K.L.THOMPSON
AMBIENT TEMPERATURE 58°F
BAROMETRIC PRESSURE 29.38
STATIC PRESSURE, (P_s) 4.5 PSIG
FILTER NUMBER (s) -

PROBE LENGTH AND TYPE SPEC. SS.
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.35
PROBE HEATER SETTING -
HEATER BOX SETTING -
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0 / 0200	830.640									
1	0 - 0200	830.640	0.57	0.145	0.145	21.5	59	58			54
1	5 - 0205	833.600	0.57	0.145	0.145	21.5	60	59			52
2	10 - 0210	837.105	0.57	0.145	0.145	21.5	60	59			52
2	15 - 0215	841.020	0.57	0.145	0.145	21.5	60	59			52
1	20 - 0220	844.900	0.57	0.145	0.145	21.5	60	59			52
1	25 - 0225	848.795	0.57	0.145	0.145	21.5	60	59			52
2	30 - 0230	852.690	0.57	0.145	0.145	21.5	60	59			53
2	35 - 0235	856.600	0.57	0.145	0.145	21.5	59	58			53
1	40 - 0240	860.460	0.57	0.145	0.145	21.5	59	58			54
1	45 - 0245	864.310	0.57	0.145	0.145	21.5	59	58			55
2	50 - 0250	868.160	0.57	0.145	0.145	21.5	58	57			55
2	55 - 0255	872.040	0.57	0.145	0.145	21.5	58	57			55
1	60 - 0300	875.915	0.57	0.145	0.145	21.5	58	57			55
1	65 - 0305	879.770	0.57	0.145	0.145	21.5	58	57			55
2	70 - 0310	883.650	0.57	0.145	0.145	21.5	58	57			54
2	75 - 0315	887.510	0.57	0.145	0.145	21.5	58	57			54
1	80 - 0320	891.380	0.57	0.145	0.145	21.5	58	57			54
1	85 - 0325	895.250	0.57	0.145	0.145	21.5	58	57			54
2	90 - 0330	899.125	0.57	0.145	0.145	21.5	58	57			55
2	95 - 0335	902.995	0.57	0.145	0.145	21.5	58	57			55
1	100 - 0340	906.860	0.57	0.145	0.145	21.5	58	57			55
1	105 - 0345	910.740	0.57	0.145	0.145	21.5	58	57			55
2	110 - 0350	914.615	0.57	0.145	0.145	21.5	58	57			55
COMMENTS: 2	115 - 0355	918.490	0.57	0.145	0.145	21.5	58	57			55
2	120 - 0400	922.362	END	TEST							

EPA (Dur) 235
4 72

PLANT Sabin Chlor-Alkali
DATE 9/26/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-26
OPERATOR SFW
AMBIENT TEMPERATURE 55° F
BAROMETRIC PRESSURE 29.38
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER Cb-4
METER BOX NUMBER Zurn-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H₂O~~ Rotameter CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H₂O		STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE		~~PUMP VACUUM~~, in. Hg Inlet Press. PSIG	SAMPLE BOX TEMPERATURE, Outlet °F Press. PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0 -	0200	762.548	1790		0.260	95.5	51	55	3.9	3.3	50
	5	0205	767.315	1790		0.220	95.5	51	55	3.9	3.3	50
	10	0210	772.350	1790		0.230	95.5	51	55	3.9	3.3	50
	15	0215	777.505	1790		0.225	95.0	51	56	3.9	3.3	50
	20	0220	782.415	1790		0.225	95.0	51	56	3.9	3.3	50
	25	0225	787.515	1780		0.225	95.0	52	56	3.9	3.3	55
	30	0230	792.565	1780		0.230	95.5	52	56	3.9	3.3	55
	35	0235	797.615	1780		0.230	95.0	52	56	3.9	3.3	55
	40	0240	802.580	1780		0.230	95.0	52	55	3.9	3.3	55
	45	0245	807.620	1780		0.230	95.0	52	55	3.9	3.3	55
	50	0250	812.670	1780		0.230	75.0	52	55	3.9	3.3	55
	55	0255	817.795	1780		0.225	95.5	52	55	3.9	3.3	55
	60	0300	822.685	1780		0.225	95.5	52	55	3.9	3.3	55
	65	0305	827.675	1780		0.225	95.5	52	55	3.9	3.3	55
	70 -	0310	832.675	1780		0.225	95.5	52	55	3.9	3.3	55
	75 -	0315	837.690	1790		0.225	95.5	52	55	3.9	3.3	55
	80 -	0320	842.660	1790		0.225	95.5	52	55	3.9	3.3	55
	85 -	0325	847.665	1780		0.225	95.5	52	65	3.9	3.3	55
	90 -	0330	852.615	1780		0.220	95.5	52	55	3.9	3.3	55
	95 -	0335	857.625	1780		0.225	95.5	52	55	3.9	3.3	55
	100 -	0340	862.685	1780		0.225	95.5	52	55	3.9	3.3	55
	105 -	0345	867.690	1780		0.225	95.0	52	55	3.9	3.3	55
	110 -	0350	872.700	1790		0.225	75.0	52	55	3.9	3.3	55
COMMENTS:	115 -	0355	877.720	1790		0.225	75.0	52	55	3.9	3.3	55
EPA (Dur) 235 4 72	120 -	0400	882.700	End	test							

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PLANT SOBIN
DATE 26 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-27
OPERATOR KKTHOMPSON
AMBIENT TEMPERATURE 55°F
BAROMETRIC PRESSURE 29.38
STATIC PRESSURE, (P_s) 4.5 PSIG
FILTER NUMBER (s) -

PROBE LENGTH AND TYPE SPEC-SS.
NOZZLE I.D. 0.121N
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.35
PROBE HEATER SETTING -
HEATER BOX SETTING -
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0 / 0500	922.362									
1	0 - 0500	922.362	0.57	0.145	0.145	21.5	58	57			55
1	5 - 0505	925.510	0.57	0.145	0.145	21.5	58	57			56
2	10 - 0510	929.310	0.57	0.145	0.145	21.5	58	57			58
2	15 - 0515	933.190	0.57	0.145	0.145	21.5	58	57			58
1	20 - 0520	936.995	0.56	0.140	0.140	21.5	58	58			59
1	25 - 0525	940.800	0.56	0.140	0.140	21.5	58	58			59
2	30 - 0530	944.590	0.57	0.140	0.140	21.5	58	58			62
2	35 - 0535	948.425	0.57	0.145	0.145	21.5	58	58			60
1	40 - 0540	952.240	0.57	0.145	0.145	21.5	58	58			61
1	45 - 0545	956.050	0.57	0.145	0.145	21.5	58	58			61
2	50 - 0550	959.820	0.56	0.140	0.140	21.5	58	58			60
2	55 - 0555	963.590	0.56	0.140	0.140	21.5	58	57			59
1	60 - 0600	967.345	0.57	0.144	0.144	21.5	58	57			58
1	65 - 0605	971.190	0.57	0.145	0.145	21.5	58	57			58
2	70 - 0610	975.015	0.57	0.145	0.145	21.5	58	57			57
2	75 - 0615	978.850	0.57	0.145	0.145	21.5	58	57			58
1	80 - 0620	982.680	0.57	0.145	0.145	21.5	58	57			59
1	85 - 0625	986.565	0.57	0.145	0.145	21.5	58	57			59
2	90 - 0630	990.415	0.57	0.145	0.145	21.5	58	57			59
2	95 - 0635	994.250	0.57	0.145	0.145	21.5	58	57			50
1	100 - 0640	998.055	0.57	0.145	0.145	21.5	58	57			59
1	105 - 0645	1001.860	0.57	0.145	0.145	21.5	58	57			60
2	110 - 0650	1005.665	0.57	0.145	0.145	21.5	57	56			60
COMMENTS: 2	115 - 0655	1009.465	0.57	0.145	0.145	21.5	57	56			60
2	120 - 0700	1013.183	END	TEST							

EPA (Dur) 235
4/72

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PLANT Sabin Chlor Alkali
DATE 7/26/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER 3CA-2B
OPERATOR SFW
AMBIENT TEMPERATURE 48 56°F
BAROMETRIC PRESSURE 29.38
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER SL-1
METER BOX NUMBER Zuen 2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT
READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY ~~HEAD~~ (Δp_s), in. H_2O Manometer CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ Inlet [illegible] psig	~~SAMPLE BOX TEMPERATURE,~~ Outlet [illegible] psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL	In[illegible]	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
			882.700									
	0 -	0500	882.700	1780		0.210	95.5	52	55	3.3	3.0	<50
	5 -	0505	886.900	1780		0.215	95.5	52	55	3.3	3.8	<50
	10 -	0510	892.340	1780		0.225	95.5	[illegible]	[illegible]	3.3	3.8	50
	15 -	0515	897.080	1780		0.225	95.5	52	55	3.3	3.8	55
	20	0520	901.845	1780		0.220	95.0	52	55	3.3	3.8	55
	25 -	0525	906.905	1780		0.225	95.0	52	55	3.3	3.8	55
	30 -	0530	911.940	1780		0.225	95.0	52	55	3.3	3.8	55
	35 -	0535	916.930	1780		0.225	95.0	52	55	3.3	3.8	55
	40 -	0540	922.000	1780		0.225	95.0	52	55	3.3	3.8	55
	45 -	0545	927.010	1780		0.225	95.0	52	55	3.3	3.8	55
	50 -	0550	931.985	1780		0.225	95.0	52	55	3.3	3.8	55
	55 -	0555	937.185	1780		0.230	95.0	52	55	3.3	3.8	55
	60 -	0600	942.195	1780		0.225	95.0	52	55	3.3	3.8	55
	65 -	0605	947.205	1780		0.223	95.0	52	55	3.3	3.8	55
	70 -	0610	952.270	1780		0.225	95.5	52	55	3.3	3.8	55
	75 -	0615	957.330	1780		0.225	95.5	52	55	3.3	3.8	55
	80 -	0620	962.325	1780		0.225	95.5	52	55	3.3	3.9	55
	85 -	0625	967.415	1780		0.225	95.5	52	55	3.3	3.9	55
	90 -	0630	972.490	1780		0.225	95.5	52	55	3.3	3.9	55
	95 -	0635	977.510	1780		0.225	95.5	52	55	3.3	3.9	55
	100 -	0640	982.565	1780		0.225	95.0	52	55	3.3	3.9	55
	105	0645	987.580	1780		0.225	95.0	51	55	3.3	3.9	55
	110	0650	992.585	1780		0.225	95.0	51	54	3.3	3.9	55
	115	0655	997.795	1780		0.225	95.0	51	54	3.3	3.9	55
	120	0700	1002.602	End	test							

COMMENTS:

EPA (Dur) 235
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FIEL_ T

PLANT SOBIN
DATE 9-26-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-29
OPERATOR JTC
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.40
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE Spec. SS
NOZZLE I.D. 0.12
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER
METER BOX NUMBER ES 1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ____ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS (psig)	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	0805	013.183	0.56	.139	.140	21	58	56		4.3	52
1	5	0810	15.920	0.57	.141	.140	21	58	56		4.4	48
2	10	0815	19.690	.565	.140	.140	21	58	56		4.4	48
2	15	0820	23.410	.565	.140	.140	21	58	57		4.4	48
1	20	0825	27.170	.565	.140	.140	21	58	57		4.4	48
1	25	0830	30.930	.565	.140	.140	21	58	57		4.4	48
2	30	0835	34.700	.565	.140	.140	21	58	57		4.4	48
2	35	0840	38.460	.565	.140	.140	21	58	57		4.4	48
1	40	0845	42.220	.565	.140	.140	21	58	57		4.4	48
1	45	0850	45.960	.565	.140	.140	21	58	57		4.4	48
2	50	0855	49.700	.565	.140	.140	21	58	57		4.4	48
2	55	0900	53.470	.565	.140	.140	21	58	57		4.4	48
1	60	0705	57.220	.565	.140	.140	21	58	57		4.3 to 4.4 ①	48
1	65	0910	60.950	.560	.138	.138	21	58	57		4.4	48
2	70	0915	64.690	.565	.140	.140	21	58	57		4.3 to 4.4	48
2	75	0920	68.440	.565	.140	.140	21	59	58		4.3 to 4.4	48
1	80	0925	72.170	.560	.138	.138	21	59	58		4.4	48
1	85	0930	75.960	.555	.135	.135	21	60	59		4.4 to 4.5	48
2	90	0935	79.710	.560	.138	.138	21	60	59		4.4	48
2	95	0940	83.460	.560 ②	.138	.138	21	62	61		4.4	48
1	100	0945	87.200	.560 ②	.138	.138	21	63	62		4.3 - 4.4	48
1	105	0950	90.960	.560 ②	.138	.138	21	64	62		4.3 - 4.4	49
2	110	0955	94.710	.560 ②	.138	.138	21	65	62		4.3 - 4.4	49
COMMENTS: 2	115	1000	98.470	.560 ②	.138	.138	21	65	62		4.3 - 4.4	49
2	120	1005	102.250	END OF TEST #29								

① Small fluctuations in Stack Static Press.
② Cycling from 0.55 to 0.57

EPA (Dur) 235
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FIEL[illegible]

PLANT Sobin
DATE 9/21/74
SAMPLING LOCATION Outlet
SAMPLE TYPE H_2
RUN NUMBER SCA-30
OPERATOR DFD
AMBIENT TEMPERATURE 50
BAROMETRIC PRESSURE 29.46
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), ~~in. H_2O~~ CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM,~~ in. Hg INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\ in}$), °F	OUTLET ($T_{m\ out}$), °F			
	0	0805	002.602	1800		.22	95.5	50	52	3.9	3.3	50
	5	0810	007.01	1800		.23	95.5	50	52	3.9	3.3	50
	10	0815	012.19	1775		.23	95.5	50	52	3.9	3.2	50
	15	0820	017.38	1780		.24	95.5	50	52	3.9	3.2	50
	20	0825	022.51	1750		.23	95.5	50	52	3.9	3.2	50
	25	0830	027.62	1780		.23	95.5	50	52	3.9	3.2	50
	30	0835	032.68	1780		.23	95.5	50	52	3.9	3.2	50
	35	0840	037.74	1750		.23	95.5	50	52	3.9	3.3	50
	40	0845	042.79	1775		.23	95.5	50	52	3.9	3.3	50
	45	0850	047.79	1780		.22	95.5	50	52	3.9	3.3	50
	50	0855	052.79	1780		.23	95.5	50	52	3.9	3.3	50
	55	0900	057.76	1780		.22	95.5	50	52	3.9	3.3	50
	60	0905	062.81	1780		.23	95.5	50	52	3.9	3.3	50
	65	0910	067.82	1780		.23	95.5	52	54	3.9	3.2	50
	70	0915	072.82	1780		.23	95.5	52	54	3.9	3.2	50
	75	0920	077.81	1780		.23	95.5	52	54	3.4	3.2	50
	80	0925	082.84	1780		.23	95.5	52	54	3.9	3.2	50
	85	0930	087.71	1780		.21	95.5	52	54	3.9	3.2	50
	90	0935	092.61	1780		.21	95.5	52	54	3.9	3.2	50
	95	0940	097.39	1780		.21	95.5	52	54	3.9	3.2	50
	100	0945	102.32	1780		.23	96.0	52	54	3.9	3.2	50
	105	0950	107.45	1780		.23	96.0	52	54	3.4	3.2	50
	110	0955	112.61	1780		.23	96.0	52	54	3.4	3.2	50
COMMENTS:	115	1000	117.79	1780		.23	96.0	52	54	3.9	3.2	50
	120	1005	123.00	END								

EPA (Dur) 235
4/72

FIE[illegible]

PLANT SC-131N
DATE 9-26-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-31
OPERATOR JTC
AMBIENT TEMPERATURE 60
BAROMETRIC PRESSURE 29.41
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE 5 ft S.S.
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CCI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS (psig)	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F			
1	0	1100	102.250	0.550	0.135	0.135	21	63	62		4.4	55
1	5	1105	104.830	0.550	.140	.140	21	63	62		4.4	54
2	10	1110	108.510	0.555	.140	.140	21	63	62		4.4	52
2	15	1115	112.340	0.555	.140	.140	21	63	62		4.4	52
1	20	1120	115.890	.555	.140	.140	21	63	62		4.4	52
1	25	1125	119.610	.550	.138	.138	21	63	62		4.4	53
2	30	1130	123.310	.555	.140	.140	21	63	62		4.4	53
2	35	1135	126.990	.555	.140	.140	21	63	62		4.4	53
1	40	1140	130.750	.550	.138	.138	21	63	62		4.5	54
1	45	1145	134.470	.550	.138	.138	21	64	63		4.4	54
2	50	1150	138.160	.550	.138	.138	21	65	63		4.4	54
2	55	1155	141.830	.550	.138	.138	21	65	64		4.4	54
1	60	1200	145.600	.555	.140	.140	21	64	63		4.5	54
1	65	1205	149.250	.555	.140	.140	21	64	63		4.4	54
2	70	1210	153.090	.550	.138	.138	21	64	63		4.4	54
2	75	1215	156.820	.550	.138	.138	21	64	63		4.4	55
1	80	1220	160.550	.550	.138	.138	21	65	64		4.4	55
1	85	1225	164.280	.550	.138	.138	21	65	64		4.4	55
2	90	1230	168.020	.550	.138	.138	21	65	64		4.4	55
2	95	1235	171.750	.555	.140	.140	21	66	64		4.4	55
1	100	1240	175.530	.555	.140	.140	21	66	65		4.4	55
1	105	1245	179.290	.550	.138	.138	21	66	65		4.4	56
2	110	1250	183.010	.550	.138	.138	21	66	65		4.4	56
COMMENTS: 2	115	1255	186.730	.55	.138	.138	21	66	64		4.4	56
2	120	1300	190.479	END OF TEST # SCA-31								

EPA (Dur) 235
4/72

FIELD

PLANT Sorin
DATE [illegible]
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-32
OPERATOR DJD
AMBIENT TEMPERATURE 60°
BAROMETRIC PRESSURE 29.41
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER # 1
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O SCFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET ($T_{m\ in}$), °F	OUTLET ($T_{m\ out}$), °F			
	0	1100	123.00	1775		.23	95.5	56	58	3.9	3.3	50
	5	1105	127.39	1775		.23	95.5	56	58	3.9	3.3	50
	10	1110	132.31	1775		.23	95.5	56	58	3.9	3.3	50
	15	1115	137.42	1780		.23	95.5	56	58	3.9	3.3	55
	20	1120	142.51	1780	235	.23	95.5	56	58	3.9	3.3	55
	25	1125	147.59	1780	245	.22	95.5	56	58	3.9	3.3	55
	30	1130	152.54	1780	235	.22	95.5	56	58	3.9	3.3	55
	35	1135	157.61	1775	240	.22	95.5	58	60	3.9	3.3	55
	40	1140	162.64	1780	240	.22	95.5	58	60	3.9	3.3	55
	45	1145	167.66	1790	240	.20	95.5	58	60	3.9	3.3	55
	50	1150	172.38	1780	235	.22	95.5	58	60	3.9	3.3	55
	55	1155	177.40	1780	235	.23	95.5	58	60	3.9	3.3	55
	60	1200	182.34	1780	240	.23	95.5	58	60	3.9	3.3	55
	65	1205	187.21	1780	240	.24	95.5	58	60	3.9	3.3	55
	70	1210	193.01	1780	240	.23	95.5	58	60	3.9	3.3	55
	75	1215	197.08	1780	240	.23	95.5	58	60	3.9	3.3	55
	80	1220	203.40	1780	240	.22	95.5	58	60	3.9	3.3	55
	85	1225	208.04	1780	240	.19	95.5	58	60	3.9	3.3	55
	90	1230	212.89	1780	240	.20	95.5	58	60	3.9	3.3	55
	95	1235	217.74	1780	240	.18	95.5	58	60	3.9	3.3	55
	100	1240	222.13	1780	240	.19	95.5	58	60	3.9	3.3	55
	105	1245	227.11	1780	240	.22	96.0	58	60	3.9	3.3	55
	110	1250	232.03	1780	240	.22	96.0	58	60	3.9	3.3	55
COMMENTS:	115	1255	237.01	1780	245	.22	95.5	58	60	3.9	3.8	55
	120	1300	242.05	END								

EPA (Dur) 235
4/72

FIE[illegible]

PLANT SOBIN
DATE 9-26-79
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-33
OPERATOR JTC
AMBIENT TEMPERATURE 65
BAROMETRIC PRESSURE 29.40
STATIC PRESSURE, (P_s) 4.4 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE [illegible] S.S.
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CCI-5
METER BOX NUMBER ES 1
METER $\Delta H_@$ 1.58
C FACTOR .99
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
1	0	1400	190.478	0.550	0.138	0.138	21.5	68	66		4.4	62
1	5	1405	193.180	.550	.138	.138	21.5	68	66		4.4	62
2	10	1410	196.850	.550	.138	.138	22	68	66		4.4	60
2	15	1415	200.550	.550	.138	.138	22	68	66		4.4	59
1	20	1420	204.240	.550	.138	.138	22	67	66		4.4	58
1	25	1425	207.980	.550	.138	.138	22	67	66		4.4	58
2	30	1430	211.72	.550	.138	.138	22	67	66		4.4	58
2	35	1435	215.47	.550	.138	.138	22	67	67		4.4	58
1	40	1440	219.20	.555	.139	.140	22	67	66		4.4	58
1	45	1445	222.97	.550	.138	.138	22	67	66		4.4	58
2	50	1450	226.71	.555	.139	.138	22	67	66		4.4	58
2	55	1455	230.46	.555	.139	.138	22	67	66		4.4	58
1	60	1500	234.20	.550	.138	.138	22	67	66		4.4	57
1	65	1505	237.96	.550	.138	.138	22	66	65		4.5	57
2	70	1510	241.72	.555	.139	.138	22	66	65		4.5	57
2	75	1515	245.46	.555	.139	.138	22	66	65		4.4	58
1	80	1520	249.22	.555	.139	.140	22	66	65		4.4	58
1	85	1525	253.01	.555	.139	.140	22	66	65		4.4	58
2	90	1530	256.79	.555	.139	.140	22	66	65		4.4	58
2	95	1535	260.54	.555	.139	.140	22	66	65		4.4	58
1	100	1540	264.27	.560	.140	.140	22	65	64		4.4	58
1	105	1545	268.00	.560	.140	.140	22	65	64		4.4	58
2	110	1550	271.76	.560	.140	.140	22	65	64		4.4	58
COMMENTS 2	115	1555	275.51	.560	.140	.140	22	65	64		4.4	58
2	120	1600	279.312	END	OF	TEST	#33					

EPA (Dw) 235
4/72

FIELD

PLANT Scrin
DATE 9/24/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER SCR-34
OPERATOR DJD
AMBIENT TEMPERATURE 60°
BAROMETRIC PRESSURE 29.40
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER # 2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O SCFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, in. Hg INLET PRESS PSIG	~~SAMPLE BOX~~ ~~TEMPERATURE~~, ~~°F~~ OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	1400	242.05	1780	245	.20	95.5	60	62	3.9	3.3	50
	5	1405	246.67	1780	245	.23	95.5	60	62	3.9	3.3	50
	10	1410	251.89	1780	245	.24	95.5	60	62	3.9	3.3	50
	15	1415	257.08	1780	245	.21	95.5	60	62	3.9	3.3	56
	20	1420	262.01	1780	245	.21	95.5	60	62	3.9	3.3	50
	25	1425	266.95	1775	250	.21	95.5	60	62	3.4	3.3	55
	30	1430	271.91	1775	250	.22	95.5	60	62	3.9	3.3	55
	35	1435	276.91	1775	245	.21	95.5	60	62	3.9	3.3	55
	40	1440	281.75	1780	245	.20	95.5	60	62	3.9	3.3	55
	45	1445	286.97	1780	250	.23	95.5	62	64	3.9	3.3	55
	50	1450	292.11	1775	255	.22	95.5	62	64	3.9	3.3	55
	55	1455	297.22	1780	245	.21	95.5	62	64	3.9	3.3	55
	60	1500	303.37	1780	245	.23	95.5	62	64	3.9	3.3	55
	65	1505	307.31	1780	245	.20	95.5	62	64	3.9	3.3	55
	70	1510	312.25	1780	250	.20	95.5	62	64	3.9	3.3	55
	75	1515	917.17	1780	250	.20	95.5	62	64	3.9	3.3	55
	80	1520	322.20	1780	240	.21	95.5	62	64	3.9	3.3	55
	85	1525	327.15	1780	240	.21	95.5	62	64	3.9	3.3	55
	90	1530	332.20	1780	240	.21	95.5	62	64	3.9	3.3	55
	95	1535	336.91	1780	245	.21	95.5	62	64	3.9	3.3	55
	100	1540	341.97	1780	235	.20	95.5	62	64	3.9	3.3	55
	105	1545	346.91	1775	235	.22	95.5	62	64	3.9	3.3	55
	110	1550	351.91	1775	240	.21	95.5	62	64	3.9	3.3	55
COMMENTS:	115	1555	357.04	1780	235	.80	95.5	62	64	3.4	3.3	55
	120	1600	361.980	END								

EPA (Dur) 235
4/72

FIE r

PLANT Schin
DATE 9-26 79
SAMPLING LOCATION Inlet
SAMPLE TYPE HC
RUN NUMBER SC9-35
OPERATOR SJL
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.35
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5 ft SS
NOZZLE I.D. 0.12 in.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER FS-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFFRENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

meter set 65°F for ΔH

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE~~, Start Static Press psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	1706	279.313									
0	0	1706	279,313	0.50	.128	.128	21.5	63	63		4.4	58
1	5	1711	281.970	0.55	.138	.138	21.5	62	61		4.4	58
2	9	1715	285.030	(stop)	Due	to a	ccidental	Shut Do	wn of	Purges	iv Unit	
1	9	1740	285.030	(start)								
2	10	1741	285.700	0.55	.138	.138	21.5	62	61		4.4	58
2	15	1746	289,390	0.56	.140	.140	21.5	61	60		4.4	58
1	20	1751	293.140	0.56	.140	.140	21.5	61	60		4.4	58
1	25	1756	296.940	0.55	.138	.138	21.5	61	61		4.4	60
2	30	1801	300.695	0.55	.138	.138	21.5	61	61		4.4	60
2	35	1806	304.460	0.56	.140	.140	21.5	61	61		4.4	62
1	40	1811	308.290	0.56	.140	.140	21.5	61	61		4.4	62
1	45	1816	312.000	0.56	.140	.140	21.5	61	60		4.4	60
2	50	1821	315.715	0.57	.142	.142	21.5	61	60		4.4	58
2	55	1826	319.620	0.56	.140	.140	21.5	61	60		4.4	58
1	60	1831	323.370	0.56	.140	.140	21.5	61	60		4.4	58
1	65	1836	327.130	0.56	.140	.140	21.5	61	60		4.4	56
2	70	1841	330.900	0.57	.142	.142	21.5	61	60		4.4	56
~~4~~	~~75~~	~~(15.15.35)~~	334.136									
2	74.5	(1845.30	334,136	(Stop)	(End	test)	(Freon	Refri	geration	Sy	stem Fail	ure)
COMMENTS:												

EPA (Dur) 235
4 72

V

PLANT Sobin Chlor-Alkali
DATE 9/26/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-36
OPERATOR JRC
AMBIENT TEMPERATURE 58
BAROMETRIC PRESSURE 29.35
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 7-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H_2O~~ INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O RECIEN.		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. Psig	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES. Psig	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0		361.882									
	0	1706	361.882	1760		0.205	95	58	62	4.0	~~58~~ 3.3	~~62~~ 58
	5	1711	366.220	1760		0.220	95	58	62	4.0	~~58~~ 3.3	~~62~~ 58
	9	1715	370.580	1760		0.205	95	58	62	4.0		
	TEST STOPPED — FREON Unit Accidentally SHUT DOWN											
	9	1740	370.580	1760	240	0.205	95	58	62	4.0	~~58~~ 3.3	58
	10	1741	371.270	1760	240	0.205	95	58	62	4.0	3.4	58
	15	1746	376.335	1770	240	0.215	95	58	62	4.0	3.4	58
	20	1751	381.415	1770	240	0.210	95.5	58	62	4.0	3.4	58
	25	1756	386.295	1770	240	0.20	95.5	58	62	4.0	3.4	60
	30	1801	391.170	1770	240	0.20	95.5	58	62	4.0	3.4	60
	35	1806	396.055	1770	240	0.20	95.5	58	62	4.0	3.4	60
	40	1811	400.920	1770	240	0.20	95.5	58	62	4.0	3.4	60
	45	1816	405.800	1770	240	0.195	95.5	58	62	4.0	3.4	58
#	50	1821	410.500	1800	240	0.180	95.5	57	61	3.6	3.1	57
	55	1826	415.310	1770	240	0.180	95.5	57	61	4.0	3.5	57
	60	1831	420.150	1770	237	0.20	95.5	57	61	4.0	3.4	57
	65	1836	425.090	1770	240	0.20	95.5	57	61	4.0	3.4	57
	70	1841	429.980	1770	240	0.19	95.5	57	61	4.0	3.4	55
	~~74~~745	1845:30	434.175									
			END TEST # SCA-35 & 36 AFTER 74.5 minutes									
			REASON — Failure in FREON REFRIGERATION SYSTEM CAUSED SHUT DOWN									
				OF UNDETERMINED LENGTH								

COMMENTS:

EPA (Dur) 235 4/72

Unit Flows & Pressures Fluctuating Slightly - JRC

FIE

PLANT Schin
DATE 9-26-74
SAMPLING LOCATION Inlet
SAMPLE TYPE Hg
RUN NUMBER SIA 37
OPERATOR Sdr
AMBIENT TEMPERATURE 53
BAROMETRIC PRESSURE 29.41
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SP&C 55
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CC 5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp
(meter temp. use 65° F)

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE ~~(T_s), °F~~ C°	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX~~ TEMPERATURE, °F STK. Static Press. PS,E	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	2042	334.136									
1	0	2042	334.036	0.56	.140	.140	21.0	59	59	—	4.8	56
1	5	2047	336.770	0.55	.138	.138	21.0	60	59	—	4.8	56
2	10	2052	340.390	0.56	.140	.140	21.0	60	59	—	5.2	56
2	15	2057	344.145	0.56	.140	.140	21.0	59	59	—	4.8	55
1	20	2102	347.900	0.56	.140	.140	21.0	60	59	—	4.8	55
1	25	2107	351.660	0.55	.138	.138	21.0	60	59	—	4.9	55
2	30	2112	355.395	0.55	.138	.138	21.1	60	59	—	4.8	55
2	35	2117	359.125	0.55	.138	.138	21.2	60	59	—	4.8	55
1	40	2122	362.870	0.55	.138	.138	21.3	60	59	—	4.8	55
1	45	2127	366.560	0.55	.138	.138	21.3	60	59	—	4.8	55
2	50	2132	370.330	0.55	.138	.138	21.3	60	59	—	4.9	55
2	55	2137	374.080	0.55	.138	.138	21.5	60	60	—	4.8	55
1	60	2142	377.825	0.55	.138	.138	21.5	60	60	—	4.8	55
1	65	2147	381.580	0.55	.138	.138	21.5	60	60	—	4.8	55
2	70	2152	385.360	0.55	.138	.138	21.5	60	60	—	4.8	55
2	75	2157	389.130	0.55	.138	.138	21.5	60	60	—	4.8	55
	80	2202	392.906	(Stir)	End	Test						
COMMENTS:												

EPA (Dur) 235
4/72

PLANT SCAIN CHLOR-ALKALI
DATE 4/26/74
SAMPLING LOCATION [redacted]
SAMPLE TYPE
RUN NUMBER
OPERATOR
AMBIENT TEMPER
BAROMETRIC PRES
STATIC PRESSURE
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Z-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O) REGEN		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES, PSIG	~~SAMPLE BOX TEMPERATURE,~~ °F OUTLET PRES, PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~ CFM	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0		434.175									
	0	2042	434.175	1740	225	0.20	94	55	58	4.6	4.0	50
	5	2047	438.130	1740	225	0.20	94.5	55	58	4.6	3.9	50
	10	2052	442.800	1800	210	0.17	95	55	58	3.8	3.1	50
	15	2057	447.600	1740	240	0.205	95.5	55	58	4.6	4.0	50
	20	2102	452.700	1740	240	0.20	95.5	55	58	4.6	4.0	50
	25	2107	457.640	1740	240	0.20	96	55	58	4.6	4.0	50
	30	2112	462.560	1740	240	0.20	96	55	58	4.6	4.0	50
	35	2117	467.460	1730	230	0.20	96	55	58	4.6	4.0	50
	40	2122	472.400	1730	235	0.20	96.5	55	58	4.6	4.0	50
	45	2127	477.310	1740	.240	0.20	95.5	54	57	4.6	4.0	50
	50	2132	482.235	1750	.235	0.20	95.5	54	57	4.6	4.0	50
	55	2137	487.175	1740	.240	0.20	95.5	54	57	4.6	4.0	50
	60	2142	492.090	1740	.240	0.20	95.5	54	57	4.6	4.0	50
	65	2147	496.99	1740	.240	0.20	95.5	54	57	4.6	4.0	50
	70	2152	501.900	1740	.240	0.20	95.5	54	57	4.6	4.0	50
	75	2157	506.830	1740	240	0.20	95	54	57	4.6	4.0	50
	80	2202	511.750	1740	.240	0.20	95	54	57	4.6	4.0	50

END TEST # SCA-38

NOTE: ALMOST THE ENTIRE PLANT SHUT DOWN AT 1645, INCLUDING THE PURASIV UNITS. PRODUCTION CAME BACK ON AT APPROXIMATELY 2015. PURASIV STARTED BACK ON STREAM AROUND 2030. PURASIV ALLOWED TO "LINE OUT" FOR 15 MINUTES BEFORE BEGINNING TEST.

COMMENTS: TEST # SCA-38 WAS TERMINATED AT 2202 IN ORDER TO GET TEST SCHEDULE BACK IN LINE. PLANT PERSONNEL WILL STILL SWITCH ADSORBERS AT REGULAR TIME (1700) TOMORROW.

JRC

EPA (Dur) 235
4/72

PLANT Sobin
DATE 9-26-27-74
SAMPLING LOCATION Inlet
SAMPLE TYPE Hg
RUN NUMBER SCA 39
OPERATOR Sch + KKt
AMBIENT TEMPERATURE B 57
BAROMETRIC PRESSURE 29.42
STATIC PRESSURE, (P_s) 4.5 PSIG
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SPec. SS
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER E.S.1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

meter (set): 65°F for ΔH

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ Stk. Static Pres. Psig.	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL	C°	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	2300	392.906									
1	0	2300	392.906	0.56	.140	.140	21.5	60	60	—	4.9	56
1	5	2305	395.710	0.55	.138	.138	21.5	60	60	-	4.9	56
2	10	2310	399.415	0.55	.138	.138	21.5	60	60	—	4.9	56
2	15	2315	403.150	0.55	.138	.138	21.5	60	60	—	4.9	58
1	20	2320	406.890	0.55	.138	.138	21.5	60	60	—	4.9	58
1	25	2325	410.610	0.55	.138	.138	21.5	60	60	—	4.8	58
2	30	2330	414.360	0.55	.138	.138	21.5	60	60	—	4.8	58
2	35	2335	418.408	0.56	.140	.140	21.5	60	60	—	4.8	55
1	40	2340	421.970	0.56	.140	.140	21.5	60	60	—	4.8	55
1	45	2345	426.005	0.56	.140	.140	21.5	60	60	—	4.8	55
2	50	2350	430.070	0.56	.140	.140	21.5	60	60	—	4.8	55
2	55	2355	433.800	0.56	.140	.140	21.5	60	60	—	4.8	55
1	60	2400	436.460	0.56	.140	.140	21.5	60	60		4.8	56
1	65	0005	440.245	0.56	0.140	0.140	21.5	60	58		4.8	56
2	70	0010	443.990	0.56	0.140	0.140	21.5	60	58		4.8	56
2	75	0015	447.805	0.56	0.140	0.140	21.5	60	58		4.8	56
1	80	0020	451.595	0.56	0.140	0.140	21.5	60	58		4.8	57
1	85	0025	455.380	0.56	0.140	0.140	21.5	59	58		4.8	56
2	90	0030	459.175	0.57	0.142	0.142	21.5	59	59		4.9	56
2	95	0035	462.975	0.57	0.142	0.142	21.5	59	58		4.9	56
1	100	0040	466.785	0.57	0.142	0.142	21.5	58	57		4.8	56
1	105	0045	470.550	0.60	0.148	0.148	21.5	58	57		4.8	56
2	110	0050	474.450	0.60	0.148	0.148	21.5	57	56		4.8	56
COMMENTS: 2	115	0055	478.375	0.59	0.146	0.146	21.5	57	56		4.8	56
2	120	0100	482.300	END	TEST							

EPA (Dur) 235
4 72

PLANT Scain Chlor-Alkali
DATE 9/26/74 - 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-~~3C~~ 40
OPERATOR JRC/SPW
AMBIENT TEMPERATURE 57
BAROMETRIC PRESSURE 29.42
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O RECCN. ~~DESIRED~~ CFM	ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F	~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX~~ TEMPERATURE, °F OUTLET PRES. PSIG	IMPINGER TEMPERATURE, °F
	0	2300	511.750									
	0	2300	511.750	1730	235	0.21	95.5	53	56	4.6	4.0	50
	5	2305	516.440	1730	.240	0.21	95.5	53	56	4.6	4.0	50
	10	2310	521.345	1730	240	0.205	95.5	53	56	4.6	4.0	50
	15	2315	426.220	1730	235	0.20	95.5	53	56	4.6	4.0	50
	20	2320	531.100	1730	235	0.20	95.5	53	56	4.6	4.0	50
	25	2325	535.975	1730	235	0.20	95.5	53	56	4.6	4.0	50
	30	2330	540.850	1730	235	0.20	95.5	53	56	4.6	4.0	50
	35	2335	545.725	1730	235	0.20	95.5	53	56	4.6	4.0	50
	40	2340	550.590	1730	235	0.20	95.5	53	56	4.6	4.0	50
	45	2345	555.450	1730	235	0.20	95.5	53	56	4.6	4.0	50
	50	2350	560.270	1730	235	0.20	95.5	53	56	4.6	4.0	50
	55	2355	565.100	1730	240	0.20	95.5	53	56	4.6	4.0	50
	60	2400	569.950	1730	235	0.20	95.5	53	56	4.6	4.0	50
	65 -	0005	574.860	1750	235	0.20	95.5	53	56	4.5	4.0	50
	70 -	0010	579.960	1750	235	0.20	95.0	52	55	4.5	4.0	50
	75 -	0015	584.425	1750	235	0.20	95.0	52	55	4.5	4.0	50
	80 -	0020	589.450	1740	235	0.20	96.0	52	55	4.5	4.0	50
	85 -	0025	594.110	1740	235	0.20	95.0	52	55	4.5	4.0	50
	90 -	0030	598.990	1740	235	0.20	95.0	52	55	4.5	4.0	50
	95 -	0035	603.810	1740	235	0.20	95.0	52	55	4.5	4.0	50
	100 -	0040	608.700	1740	235	0.20	95.0	52	55	4.5	4.0	50
	105 -	0045	613.575	1740	235	0.20	95.0	52	55	4.5	4.0	50
	110	0050	618.370	1740	230	0.20	95.0	50	55	4.5	4.0	50
COMMENTS:	115	0055	623.210	1740	235	0.20	95.0	50	55	4.5	4.0	50
	120	0100	628.067	End	test							

EPA (Dur) 235
4/72

FIELD D

PLANT SOBIN
DATE 27 SEPT. 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-41
OPERATOR K.K. THOMPSON
AMBIENT TEMPERATURE 56
BAROMETRIC PRESSURE 29.44
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-SS
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F		INLET STACK PSIG	
	0 / 0200	482.300									
1	0 - 0200	482.300	0.59	0.146	0.146	21.5	57	55		4.8	54
1	5 - 0205	485.900	0.59	.146	0.146	21.5	57	55		4.8	55
2	10 - 0210	489.750	0.59	0.146	0.146	21.5	56	55		4.8	52
2	15 - 0215	493.640	0.60	0.148	0.148	21.5	56	55		4.8	52
1	20 - 0220	497.540	0.59	0.144	0.144	21.5	56	55		4.8	52
1	25 - 0225	501.335	0.59	0.144	0.144	21.5	56	55		4.8	52
2	30 - 0230	505.175	0.59	0.144	0.144	21.5	56	55		4.8	54
2	35 - 0235	509.030	0.59	0.144	0.144	21.5	56	55		4.8	54
1	40 - 0240	512.880	0.59	0.144	0.144	21.5	56	55		4.8	55
1	45 - 0245	516.745	0.58	0.142	0.142	21.5	56	55		4.8	56
2	50 - 0250	520.590	0.58	0.142	0.142	21.5	56	55		4.8	55
2	55 - 0255	524.470	0.58	0.142	0.142	21.5	56	55		4.8	55
1	60 - 0300	528.325	0.58	0.142	0.142	21.5	56	55		4.8	55
1	65 - 0305	532.200	0.58	0.142	0.142	21.5	56	55		4.9	56
2	70 - 0310	536.035	0.58	0.142	0.142	21.5	56	55		4.9	56
2	75 - 0315	539.960	0.58	0.142	0.142	21.5	56	55		4.9	56
1	80 - 0320	543.855	0.58	0.142	0.142	21.5	56	55		4.9	56
1	85 - 0325	547.740	0.58	0.142	0.142	21.5	56	55		4.9	56
2	90 - 0330	551.615	0.57	0.140	0.140	21.5	56	55		4.9	55
2	95 - 0335	555.600	0.57	0.140	0.140	21.5	56	55		4.9	55
1	100 - 0340	559.280	0.57	0.140	0.140	21.5	56	55		4.9	55
1	105 - 0345	563.090	0.57	0.140	0.140	21.5	56	55		4.9	55
2	110 - 0350	566.905	0.57	0.140	0.140	21.5	56	55		4.9	55
COMMENTS: 2	115 - 0355	570.725	0.56	0.138	0.138	21.5	56	55		4.9	55
2	120 - 0400	574.500	END	TEST							

EPA (Dur) 235
4 72

PLANT Sobin Chlor Alkali Inc.
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-42
OPERATOR JFW
AMBIENT TEMPERATURE 44°
BAROMETRIC PRESSURE 29.44
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Zurn-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD~~ (Δp_s), in. H_2O Inlet CFm	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O Q Recgn. DESIRED CFm	ACTUAL	STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg Inlet Pressure CFm	SAMPLE BOX TEMPERATURE, °F Outlet Pressure CFm	IMPINGER TEMPERATURE, °F
	0		628.067									
	0 -	0200	628.067	1740	245	0.190	95.0	48	52	4.6	4.0	<50
	5 -	0205	632.300	1740	245	0.210	95.0	48	52	4.4	4.0	<50
	10 -	0210	637.010	1740	245	0.20	95.0	48	52	4.4	4.0	<50
	15 -	0215	641.800	1740	245	0.20	95.0	48	52	4.4	4.0	<50
	20 -	0220	646.425	1740	240	0.20	95.0	48	52	4.4	4.0	<50
	25 -	0225	651.225	1740	240	0.20	95.0	48	52	4.4	4.0	<50
	30 -	0230	656.075	1750	240	0.20	95.0	48	50	4.4	4.0	<50
	35 -	0235	660.085	1750	250	0.20	95.0	48	50	4.4	4.0	<50
	40	0240	665.745	1730	255	0.21	95.0	48	50	4.4	4.0	<50
	45	0245	670.550	1740	245	0.21	95.0	48	50	4.4	4.0	<50
	50 -	0250	675.485	1740	245	0.21	95.0	48	50	4.4	4.0	<50
	55 -	0255	680.380	1740	250	0.21	95.0	48	50	4.4	4.0	<50
	60 -	0300	685.285	1740	250	0.21	95.0	48	50	4.4	4.0	<50
	65.	0305	690.135	1740	250	0.21	95.0	48	50	4.4	4.0	<50
	70 -	0310	695.000	1740	255	0.21	95.0	48	50	4.4	4.0	<50
	75 -	0315	700.000	1740	245	0.21	95.0	48	50	4.4	4.0	<50
	80 -	0320	704.905	1740	245	0.21	95.0	48	50	4.4	4.0	<50
	85 -	0325	709.985	1740	245	0.22	95-0	48	50	4.4	4.0	<50
	90 -	0330	714.980	1740	245	0.22	95.0	48	50	4.4	4.0	<50
	95 -	0335	720.065	1740	245	0.22	95.0	48	50	4.4	4.0	<50
	100 -	0340	725.100	1740	245	0.22	95.0	48	50	4.4	4.0	<50
	105 -	0345	730.160	1740	245	0.22	95.0	48	50	4.4	4.0	<50
	110 -	0350	735.190	1740	250	0.22	95.0	48	50	4.4	4.0	<50
COMMENTS:	115	0355	740.250	1740	245	0.22	95.0	48	50	4.4	4.0	<50
	120	0400	745.370	End	Test							

EPA (Dur) 235
4/72

FIELD [illegible]

PLANT SOBIN
DATE 27 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-43
OPERATOR K.THOMPSON
AMBIENT TEMPERATURE 54°F
BAROMETRIC PRESSURE 29.50
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC SS.
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °R	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F		INLET STACK · PSIG	
	0 – 0500	574.500									
1	0 - 0500	574.500	0.55	0.136	0.136	21.5	55	54		4.9	53
1	5 - 0505	577.490	0.55	0.136	0.136	21.5	55	54		4.9	53
2	10 - 0510	581.205	0.55	0.136	0.136	21.5	55	54		4.9	54
2	15 - 0515	584 960	0.55	0.136	0.136	21.5	55	54		4.9	53
1	20 - 0520	588.760	0.55	0.136	0.136	21.5	54	53		4.9	52
1	25 - 0525	592.565	0.55	0.136	0.136	21.5	54	53		4.9	52
2	30 - 0530	596.395	0.55	0.136	0.136	21.5	54	53		4.9	52
2	35 - 0535	600 195	0.56	0.138	0.138	21.5	54	53		4.9	52
1	40 - 0540	604015	0.55	0.136	0.136	21.5	54	53		4.9	52
1	45 - 0545	607.760	0.55	0.136	0.136	21.5	55	53		4.9	53
2	50 - 0550	611.500	0.55	0.136	0.136	21.5	55	53		4.8	53
2	55 - 0555	615.260	0.55	0.136	0.136	21.5	54	53		4.8	54
1	60 - 0600	619.020	0.55	0.136	0.136	21.5	54	53		4.8	54
1	65 - 0605	622.765	0.55	0.136	0.136	21.5	54	53		4.8	54
2	70 - 0610	626.535	0.55	0.136	0.136	21.5	54	53		4.8	54
2	75 - 0615	630.300	0.55	0.136	0.136	21.5	54	53		4.8	55
1	80 - 0620	634.070	0.55	0.136	0.136	21.5	54	53		4.8	55
1	85 - 0625	637 835	0.55	0.136	0.136	21.5	54	53		4.8	55
2	90 - 0630	641.525	0.55	0.136	0.136	215	54	53		4.8	55
2	95 - 0635	645.360	0.55	0.136	0.136	215	54	53		4.8	55
1	100 - 0640	649 120	0.55	0.136	0.136	215	54	53		4.8	55
1	105 - 0645	652.830	0.54	0.134	0.134	215	54	53		4.8	55
2	110 - 0650	656.610	0.54	0.134	0.134	215	54	53		4.8	55
2	115 - 0655	660.340	0.54	0.134	0.134	21.5	54	53		4.8	55
2	120 - 0700	664.077	END	TEST							

FIEL

PLANT Sobin Chlor Alkali
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA- 44
OPERATOR SKW
AMBIENT TEMPERATURE 45° F
BAROMETRIC PRESSURE 29.50
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER ZURN 2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H_2O~~ Inlet CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O Regain		STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ Inlet Pressure PSIG	~~SAMPLE BOX TEMPERATURE~~, °F Outlet Pressure PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	0500	745, 370									
	0	0500	745, 370	1740	245	0.20	95.0	46	50	4.4	3.9	<50
	5 -	0505	749. 505	1740	245	0.20	95.0	46	50	4.4	3.9	<50
	10 -	0510	754. 725	1740	240	0.225	95.0	46	50	4.4	3.9	<50
	15 -	0515	759. 575	1740	235	0.225	95.0	46	50	4.4	3.9	<50
	20 -	0520	764. 575	1730	225	0.225	95.0	46	50	4.4	3.9	<50
	25 -	0525	769. 600	1730	235	0.225	95.0	46	50	4.4	3.9	<50
	30 -	0530	774. 575	1730	235	0.225	95.0	46	50	4.4	3.9	<50
	35 -	0535	779. 540	1740	235	0.225	95.0	46	50	4.4	3.9	<50
	40 -	0540	784. 590	1740	235	0.225	95.0	46	50	4.4	3.9	<50
	45 -	0545	789. 550	1740	245	0.225	95.0	45	49	4.4	3.9	<50
	50 -	0550	794. 565	1740	235	0.225	95.0	45	49	4.4	3.9	<50
	55 -	0555	799. 525	1740	235	0.225	95.0	45	49	4.4	3.9	<50
	60 -	0600	804. 525	1740	235	0.225	95.0	45	49	4.4	3.9	50
	65 -	0605	809. 500	1740	230	0.225	95.0	45	49	4.4	3.9	50
	70 -	0610	814. 575	1740	240	0.225	95.0	45	49	4.4	3.9	50
	75 -	0615	819. 500	1750	245	0.225	95.0	45	49	4.4	3.9	50
	80 -	0620	824. 510	1750	245	0.225	95.0	45	49	4.4	3.9	50
	85 -	0625	829. 455	1750	240	0.225	95.0	45	49	4.4	3.9	50
	90 -	0630	834. 435	1740	245	0.225	95.0	45	49	4.4	3.9	50
	95 -	0635	839. 415	1740	245	0.225	95.0	45	49	4.4	3.9	50
	100 -	0640	844. 505	1740	240	0.23	95.0	45	49	4.4	3.9	50
	105 -	0645	849. 515	1740	235	0.23	95.0	45	49	4.4	3.9	50
	110 -	0650	855. 620	1740	235	0.23	95.0	45	49	4.4	3.9	50
COMMENTS:	115 -	0655	859. 640	1740	235	0.23	95.0	45	49	4.4	3.9	50
	120 -	0700	864. 725	End	Test							

EPA (Dur) 233
4/72

FIELD

PLANT SOBIN
DATE 9-27-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-45
OPERATOR JTC
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.55
STATIC PRESSURE, (P_s) 4.9 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SPEC. S.S.
NOZZLE I.D. 0.12
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CLI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	0800	664.077	0.545	0.132	.132	21	55	53		4.8	54
1	5	0805	666.74	.545	.132	.132	21	55	53		4.8	48
2	10	0810	670.49	.545	.132	.132	21	56	54		4.7	48
2	15	0815	674.09	.545	.132	.132	21	56	54		4.9	48
1	20	0820	677.70	.545	.132	.132	21	56	55		4.8	48
1	25	0825	681.28	.545	.132	.132	21	56	55		4.8	48
2	30	0830	684.87	.545	.132	.132	21	56	55		4.8	48
2	35	0835	688.50	.545	.132	.132	21	57	55		4.8	48
1	40	0840	692.14	.545	.132	.132	21	57	55		4.8	48
1	45	0845	695.79	.545	.132	.132	21	57	55		4.8	48
2	50	0850	699.45	.545	.132	.132	21	57	55		4.8	48
2	55	0855	703.10	.545	.132	.132	21	58	56		4.8	48
1	60	0900	706.76	.545	.132	.132	21	58	56		4.8	48
1	65	0905	710.41	.545	.132	.132	21	58	56		4.8	48
2	70	0910	714.06	.545	.132	.132	21	58	57		4.8	48
2	75	0915	717.72	.545	.132	.132	21	58	57		4.8	48
1	80	0920	721.32	.540	.132	.132	21	58	57		4.8	48
1	85	0925	724.90	[illegible]	.135	.135	21	58	57		4.7	49
2	90	0930	728.54	.545	.132	.132	21	59	57		4.8	49
2	95	0935	732.22	.550	.135	.135	21	59	58		4.8	50
1	100	0940	735.91	.550	.135	.135	21	60	58		4.8	50
1	105	0945	739.62	.540	.132	.132	21	60	58		4.9	50
2	110	0950	743.16	.540	.132	.132	21	60	59		4.8	51
COMMENTS: 2	115	0955	746.76	.540	.132	.132	21	61	59		4.	51
2	120	1000	750.401		END	OF	TEST	#				

EPA (Dur) 235
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PLANT Scrin
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-46
OPERATOR DJD
AMBIENT TEMPERATURE 55
BAROMETRIC PRESSURE 29.54
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	~~PUMP VACUUM,~~ ~~in. Hg~~ INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
	0	0900	864.725	1740	240	.21	95.5	44	46	4.4	3.9	50
	5	0905	868.93	1740	245	.20	95.5	44	46	4.4	3.9	50
	10	0910	873.91	1750	245	.22	95.5	44	46	4.4	3.9	50
	15	0915	878.76	1735	255	.22	96.0	46	48	4.4	3.9	50
	20	0920	883.72	1740	250	.23	96.0	46	48	4.4	3.9	50
	25	0925	888.71	1740	240	.22	96.0	46	48	4.4	3.9	50
	30	0930	893.69	1750	246	.22	96.0	46	48	4.4	3.9	50
	35	0935	898.69	1740	240	.23	96.0	46	48	4.4	3.9	55
	40	0940	903.68	1725	250	.23	96.0	46	48	4.4	3.9	55
	45	0945	908.71	1740	245	.23	96.0	48	50	4.4	3.9	55
	50	0950	913.78	1740	245	.23	96.0	48	50	4.4	3.9	55
	55	0955	918.79	1750	245	.22	96.0	48	50	4.4	3.9	55
	60	0900	923.78	1750	245	.23	96.0	48	50	4.4	3.9	55
	65	0905	928.91	1740	245	.23	96.0	48	50	4.4	3.9	55
	70	0910	933.98	1740	250	.23	96.0	48	50	4.4	3.9	60
	75	0915	939.01	1750	245	.24	96.0	48	50	4.4	3.9	60
	80	0920	944.02	1750	245	.23	96.0	48	50	4.4	3.9	60
	85	0925	949.07	1750	245	.21	95.5	48	50	4.4	3.9	60
	90	0930	953.97	1740	250	.23	95.5	48	50	4.4	3.9	60
	95	0935	958.99	1750	240	.22	96.0	50	52	4.4	3.9	60
	100	0940	963.91	1750	240	.22	96.0	50	52	4.4	3.9	60
	105	0945	968.93	1750	240	.22	96.0	50	52	4.4	3.9	60
	110	0950	973.67	1750	240	.21	96.0	50	52	4.4	3.4	60
COMMENTS:	115	0955	978.55	1750	240	.21	96.0	50	52	4.4	3.9	60
	120	1000	983.294	END								

EPA (Dur) 235
4 72

FIELD D

PLANT SOBIN
DATE 9-27-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-47
OPERATOR JTC
AMBIENT TEMPERATURE 70°
BAROMETRIC PRESSURE
STATIC PRESSURE, (P_s) 4.8 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC. S.S.
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CLI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.35
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24-hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE INLET ($T_{m_{in}}$), °F	DRY GAS METER TEMPERATURE OUTLET ($T_{m_{out}}$), °F	PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS. psig	IMPINGER TEMPERATURE, °F
1	0	1100	750.401	0.545	0.140	0.140	21	77	70		4.8	62
1	5	1105	753.300	0.545	.140	.140	21	75	71		4.8	58
2	10	1110	757.110	.545	.140	.140	21	74	71		4.8	60
2	15	1115	760.770	.545	.140	.140	21	74	70		4.8	62
1	20	1120	734.54	.545	.140	.140	21	73	70		4.8	62
1	25	1125	768.29	.535	.137	.137	21	74	71		4.9	59
2	30	1130	772.00	.545	.140	.140	21	74	71		4.8	58
2	35	1135	775.78	.545	.140	.140	21	75	71		4.8	58
1	40	1140	779.57	.540	.138	.138	21	75	71		4.9	57
1	45	1145	783.28	.545	.140	.140	21	73	71		4.8	57
2	50	1150	787.06	.545	.140	.140	21	73	71		4.8	57
2	55	1155	790.82	.540	.138	.135	21	74	71		4.8	56
1	60	1200	794.57	.540	.138	.138	21	74	71		4.9	57
1	65	1205	798.29	.540	.138	.138	21	75	72		4.8	57
2	70	1210	802.02	.540	.138	.138	21	75	72		4.8	57
2	75	1215	805.75	.540	.138	.138	21	76	73		4.8	57
1	80	1220	809.48	.540	.138	.138	21	76	73		4.8	57
1	85	1225	813.21	.550	.140	.140	21	76	73		4.9	57
2	90	1230	817.00	.540	.138	.138	21	76	73		4.8	58
2	95	1235	820.72	.540	.138	.138	21	76	73		4.8	58
1	100	1240	824.44	.540	.138	.138	21	76	73		4.8	59
1	105	1245	828.17	.540	.138	.138	21	77	74		4.8	59
2	110	1250	831.88	.545	.140	.140	21	77	74		4.8	59
2	115	1255	835.61	.560	.143	.143	21	77	74		4.9	59
2	120	1300	839.934	END OF TEST *				47				

COMMENTS:

EPA (Dur) 235
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FIEL_ r

PLANT Scrubbr
DATE 9/22/74
SAMPLING LOCATION Outlet
SAMPLE TYPE H_2
RUN NUMBER SCA-48
OPERATOR DJD
AMBIENT TEMPERATURE 60
BAROMETRIC PRESSURE 29.55
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER #2
METER BOX NUMBER
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~	~~SAMPLE BOX TEMPERATURE, °F~~	IMPINGER TEMPERATURE, °F
				CFM	DESIRED	ACTUAL	INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	INLET PRESS PSIG	OUTLET PRESS. PSIG	
	0	1100	983.292	1750	250	.22	95.5	58	60	4.4	3.9	60
	5	1105	987.95	1750	250	.23	95.5	58	60	4.4	3.9	60
	10	1110	993.65	1750	260	.24	95.5	58	60	44	3.9	60
	15	1115	997.64	1750	260	.21	96.0	58	60	4.4	3.9	60
	20	1120	002.66	1750	265	.22	96.5	60	62	4.4	4.0	60
	25	1125	007.65	1750	260	.24	96.0	60	62	4.4	4.0	60
	30	1130	013.09	1750	270	.23	95.5	60	62	4.4	4.0	60
	35	1135	018.31	1760	260	.23	96.0	60	62	4.4	4.0	60
	40	1140	023.58	1760	260	.24	95.5	60	62	4.4	4.0	60
	45	1145	028.71	1750	270	.22	95.0	62	64	4.4	4.0	60
	50	1150	033.84	1750	265	.22	95.0	62	64	44	4.0	60
	55	1155	038.94	1750	260	.22	95.0	64	65	4.4	40	60
	60	1200	044.06	1760	255	.22	95.5	64	65	4.4	40	60
	65	1205	049.15	1760	255	.22	95.5	64	65	44	4.0	60
	70	1210	054.27	1760	220	.22	96.0	65	66	4.4	4.0	60
	75	1215	059.31	1760	270	.22	960	66	67	44	4.0	60
	80	1220	064.32	1760	250	.22	96.0	66	67	4.4	4.0	60
	85	1225	069.31	1775	255	.22	95.5	66	67	4.4	4.0	60
	90	1230	074.36	1770	260	.22	95.5	66	67	4.4	4.0	60
	95	1235	079.41	1760	265	.22	95.5	66	67	4.4	4.0	60
	100	1240	084.46	1760	260	.21	95.5	66	67	4.4	4.0	60
	105	1245	089.47	1760	260	.21	95.5	66	67	4.4	4.0	60
	110	1250	094.49	1760	245	.21	96.0	67	68	4.4	4.0	60
COMMENTS:	115	1255	099.51	1760	245	.21	96.0	67	68	4.4	4.0	60
	120	1300	104.510	END								

EPA (Dur) 235
4/72

FIELD

PLANT SOBIN
DATE 9-27-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-49
OPERATOR JTC
AMBIENT TEMPERATURE 70°
BAROMETRIC PRESSURE 29.58
STATIC PRESSURE, (P_s) 4.8
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SPEC. S.S.
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CLI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.35
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\ in})$, °F	OUTLET $(T_{m\ out})$, °F			
1	0	1400	839.934	0.560	0.143	0.143	21	79	74		4.8	72
1	5	1405	843.18	.560	.143	.143	21	78	73		4.9	68
2	10	1410	846.97	.560	.143	.143	21	76	73		4.8	67
2	15	1415	850.74	.560	.143	.143	21	76	73		4.8	67
1	20	1420	854.54	.560	.143	.143	21	76	73		4.8	67
1	25	1425	858.35	.560	.143	.143	21	75	73		4.8	68
2	30	1430	861.96	.560	.143	.143	21	75	73		4.8	68
2	35	1435	864.96	.560	.143	.143	21	75	72		4.8	68
1	40	1440	869.76	.555	.143	.143	21	75	72		4.8	69
1	45	1445	873.56	.555	.143	.143	21	75	72		4.8	69
2	50	1450	874.36	.555	.143	.143	21	75	72		4.8	69
2	55	1455	881.16	.555	.143	.143	21	74	72		4.8	69
1	60	1500	884.96	.555	.143	.143	21	73	71		4.8	69
1	65	1505	888.76	.555	.143	.143	21	73	71		4.8	69
2	70	1510	892.56	.550	.140	.140	21	73	71		4.9	69
2	75	1515	896.32	.550	.140	.140	21	73	71		4.8	69
1	80	1520	900.07	.550	.140	.140	21	73	71		4.8	69
1	85	1525	903.82	.555	.143	.143	21	73	71		4.8	70
2	90	1530	907.54	.555	.143	.143	21	72	71		4.9	70
2	95	1535	911.36	.555	.143	.143	21	71	70		4.9	70
1	100	1540	915.13	.555	.143	.143	21	71	70		4.9	70
1	105	1545	918.94	.555	.143	.143	21	71	70		4.9	71
2	110	1550	922.72	.550	.140	.140	21	71	70		4.8	71
COMMENTS: 2	115	1555	926.48	.555	.143	.143	21	70	71		4.9	71
2	120	1600	930.305	END	TEST							

EPA (Dur) 235
4 72

FIEL_ I

PLANT Sabin
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCD-50
OPERATOR DJD
AMBIENT TEMPERATURE 65
BAROMETRIC PRESSURE 29.58
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O [illegible] DESIRED	ACTUAL	STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	~~PUMP~~ VACUUM, in. Hg Inlet Press 13.6	~~SAMPLE BOX~~ TEMPERATURE, °F Outlet Press 13.06	IMPINGER TEMPERATURE, °F
	0	1400	104.51	1760	215	.24	95.5	70	70	4.4	4.0	55
	5	1405	109.29	1760	220	.23	95.5	70	70	4.4	4.0	55
	10	1410	113.35	1760	215	.22	95.5	70	70	4.4	4.0	55
	15	1415	118.58	1760	210	.23	95.5	70	70	4.4	4.0	55
	20	1420	123.81	1760	210	.23	95.5	70	70	4.4	4.0	55
	25	1425	128.87	1760	210	.22	95.5	70	70	4.4	4.0	55
	30	1430	133.94	1760	210	.21	95.5	70	70	4.4	4.0	55
	35	1435	138.95	1760	210	.21	95.5	70	70	4.4	4.0	55
	40	1440	143.99	1760	210	.21	95.5	70	70	4.4	4.0	55
	45	1445	149.11	1760	215	.21	95.5	70	70	4.4	4.0	55
	50	1450	154.19	1760	220	.21	95.5	70	70	4.4	4.0	55
	55	1455	159.29	1760	220	.21	95.5	70	70	4.4	4.0	55
	60	1500	164.35	1750	215	.21	95.5	70	70	4.4	4.0	55
	65	1505	169.43	1760	210	.21	95.5	70	70	4.4	4.0	55
	70	1510	174.44	1760	210	.20	95.5	70	70	4.4	4.0	55
	75	1515	179.51	1760	215	.21	95.5	70	70	4.4	4.0	55
	80	1520	184.58	1750	215	.20	95.5	70	70	4.4	4.0	55
	85	1525	189.68	1760	215	.21	95.5	70	70	4.4	4.0	55
	90	1530	194.74	1760	210	.21	95.5	69	70	4.4	4.0	60
	95	1535	199.84	1760	210	.21	95.0	69	70	4.4	4.0	60
	100	1540	204.81	1750	210	.21	95.0	67	69	4.4	4.0	55
	105	1545	209.84	1760	215	.20	95.0	67	69	4.4	4.0	55
	110	1550	214.81	1760	215	.21	95.0	67	69	4.4	4.0	55
COMMENTS:	115	1555	219.83	1250	220	.21	95.0	67	69	4.4	4.0	55
	120	1660	224.81	END								

EPA (Dur) 235
4/72

FIE__r

PLANT Scbin
DATE 9.27.74
SAMPLING LOCATION INLET
SAMPLE TYPE HE
RUN NUMBER SCA-51
OPERATOR Sjk
AMBIENT TEMPERATURE 64 - 56
BAROMETRIC PRESSURE 29.60
STATIC PRESSURE, (P_s) -1.8 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. 53
NOZZLE I.D. 0.12 in.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER ES 1
METER $\Delta H_@$ 1.98
C FACTOR 1.23
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp (meter temp set 65°F)

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE~~, Static °F stack pressure psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	1705	930.205				C°					
1	0	1705	930.205	0.55	.138	0.138	21.5	67	67	—	4.8	65°
1	5	1710	933.250	0.56	.140	.140	21.5	67	67	—	4.8	65°
2	10	1715	936.985	0.55	.138	.138	21.5	66	66	—	4.8	62
2	15	1720	940.710	0.55	.138	.138	21.5	66	66	—	4.8	62
1	20	1725	944.450	0.55	.138	.138	21.5	66	66	—	4.8	62
1	25	1730	948.200	0.55	.138	.138	21.5	66	66	—	4.8	62
2	30	1735	951.940	0.55	.138	.138	21.5	66	66	—	4.8	62
2	35	1740	955.680	0.55	.138	.138	21.5	66	66	—	4.8	62
1	40	1745	959.410	0.55	.138	.138	21.5	66	66	—	4.8	62
1	45	1750	963.160	0.55	.138	.138	21.5	66	66	—	4.8	62
2	50	1755	966.920	0.55	.138	.138	21.5	66	66	—	4.8	62
2	55	1800	970.660	0.55	.138	.138	21.5	66	66	—	4.8	62
1	60	1805	974.470	0.56	.140	.140	21.5	66	66	—	4.8	62
1	65	1810	978.200	0.55	.138	.138	21.5	66	66	—	4.8	62
2	70	1815	981.960	0.55	.138	.138	21.5	66	66	—	4.8	62
2	75	1820	985.740	0.56	.140	.140	21.5	66	66	—	4.8	62
1	80	1825	989.500	0.55	.138	.138	21.5	66	66	—	4.8	62
1	85	1830	993.260	0.56	.140	.140	21.5	66	66	—	4.8	62
2	90	1835	997.025	0.55	.138	.138	21.5	66	66	—	4.8	62
2	95	1840	000.800	0.56	.140	.140	21.5	66	66	—	4.8	62
1	100	1845	4.560	0.56	.140	.140	21.5	66	66	—	4.8	64
1	105	1850	8.340	0.55	.138	.138	21.5	66	66	—	4.8	64
2	110	1855	12.150	0.56	.140	.140	21.5	65	65	—	4.8	64
2	115	1900	15.925	0.56	.140	.140	21.5	65	65	—	4.8	65
2	120	1905	19.740									

COMMENTS

(Stop) END Test

EPA (Dur) 235
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FIEL_ T

PLANT Sobin Chlor-Alkali
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-52
OPERATOR JRC
AMBIENT TEMPERATURE 64 → 56
BAROMETRIC PRESSURE 29.605
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O [illegible]		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. PSIG.	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F			
	0	1705	224.810									
	0	1705	224.810	1750	~~235~~ 230	0.21	95	65	67	4.6	4.0	60
	5	1710	228.840	1750	240	0.20	95	65	67	4.5	4.0	60
	10	1715	233.760	1750	235	0.20	95	65	67	4.5	4.0	60
	15	1720	238.650	1750	235	0.20	95.5	65	67	4.5	4.0	58
	20	1725	243.540	1750	240	0.205	95.5	64	66	4.5	4.0	60
	25	1730	248.440	1750	240	0.20	95.5	64	66	4.5	4.0	60
	30	1735	253.320	1740	235	0.20	95.5	64	66	4.5	4.0	60
	35	1740	258.250	1750	235	0.20	95.5	64	66	4.5	4.0	62
	40	1745	263.140	1750	240	0.20	95.5	64	66	4.5	4.0	62
	45	1750	268.050	1750	240	0.205	95.5	64	66	4.5	4.0	65
50	~~55~~	1755	272.850	1750	240	0.20	95.5	63	66	4.5	4.0	65
55	~~60~~	1800	277.870	1750	240	0.20	95.5	63	66	4.5	4.0	65
60	~~65~~	1805	282.780	1750	240	0.205	95.5	63	66	4.5	4.0	65
65	~~70~~	1810	287.700	1750	240	0.21	95.5	63	66	4.5	4.0	65
70	~~75~~	1815	292.600	1750	240	0.20	95.5	63	66	4.5	4.0	65
75	~~80~~	1820	297.525	1750	240	0.205	95.5	63	66	4.5	4.0	65
80	~~85~~	1825	302.450	1750	235	0.21	95.5	62	65	4.5	4.0	60
85	~~90~~	1830	307.375	1750	235	0.205	95.5	62	65	4.5	4.0	60
90	~~95~~	1835	312.305	1750	235	0.215	95.5	62	65	4.5	4.0	60
95	~~100~~	1840	317.265	1750	235	0.21	95.5	62	65	4.5	4.0	60
100	~~105~~	1845	322.200	1750	230	0.205	95.5	61	64	4.5	4.0	60
105	~~110~~	1850	327.150	1740	230	0.215	95.5	61	64	4.5	4.0	60
[illegible]	110	1855	332.040	1750	230	0.205	95	60	63	4.5	4.0	60
COMMENTS:	115	1900	336.870	1750	225	0.205	95	60	63	4.5	4.0	58
	120	1905	341.695	1740	225	0.205	95	60	63	4.5	4.0	58

EPA (Dur) 235
4 72

FIE

PLANT Sobin
DATE 9-27-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA. 53
OPERATOR Sob
AMBIENT TEMPERATURE 54
BAROMETRIC PRESSURE 27.65
STATIC PRESSURE, (P_s) 4.8 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. SS
NOZZLE I.D. 0.12 in.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CLS
METER BOX NUMBER E.S.-1
METER $\Delta H_@$ 1.98
C FACTOR 1.23
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

Use 65° [illegible] for Temp. meter

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ Static Stk. Pressure psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	2[illegible]	019.740				C°					
1	0	2000	19.740	0.56	.140	.140	21.5	61	61	—	4.8	59
1	5	2005	22.880	0.56	.140	.140	21.5	60	61	—	4.8	58
2	10	2010	26.610	0.56	.140	.140	21.5	61	60	—	4.8	58
2	15	2015	30.375	0.56	.140	.140	21.5	61	60	-	4.8	55
1	20	2020	34.095	0.56	.140	.140	21.5	61	60	-	4.8	55
1	25	2025	37.860	0.55	.138	.138	21.5	61	60	-	4.8	55
2	30	2030	41.560	0.56	.140	.140	21.5	61	60	-	4.8	55
2	35	2035	45.280	0.56	.140	.140	21.5	61	60	-	4.8	55
1	40	2040	49.000	0.56	.140	.140	21.5	61	60	-	4.8	55
1	45	2045	52.730	0.56	.140	.140	21.5	61	60	-	4.8	55
2	50	2050	56.465	0.55	.138	.138	21.5	61	60	-	4.8	55
2	55	2055	60.215	0.56	.140	.140	21.5	61	60	-	4.8	55
1	60	2100	63.970	0.56	.140	.140	21.5	61	60	-	4.8	55
1	65	2105	67.705	0.56	.140	.140	21.5	61	60	-	4.8	55
2	70	2110	71.470	0.56	.140	.140	21.5	61	60	-	4.8	55
2	75	2115	75.215	0.56	.140	.140	21.5	61	60	-	4.8	55
1	80	2120	78.970	0.56	.140	.140	21.5	61	60	—	4.8	55
1	85	2125	82.680	0.56	.140	.140	21.5	61	60	—	4.8	55
2	90	2130	86.410	0.56	.140	.140	21.5	61	60	—	4.8	56
2	95	2135	90.165	0.56	.140	.140	21.5	61	60	-	4.8	56
1	100	2140	93.910	0.57	.142	.142	21.5	61	60	-	4.9	56
1	105	2145	97.660	0.56	.140	.140	21.5	60	59	—	4.9	56
2	110	2150	101.410	0.56	.140	.140	21.5	60	59	—	4.8	58
COMMENTS: 2	115	2155	105.150	0.57	.142	.142	21.5	59	59	—	4.8	58
2	120	2200	108.927	(Stop	End	Test)						

EPA (Dur) 235
4 72

PLANT Sobin Chlor-Alkali
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-54
OPERATOR VRC
AMBIENT TEMPERATURE 54
BAROMETRIC PRESSURE 29.65
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Z-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O RECIRC.		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET ($T_{m\ in}$), °F	OUTLET ($T_{m\ out}$), °F			
	0	2000	341.695									
	0	2000	341.695	1750	220	0.20	95	57	60	4.5	3.9	50
	5	2005	346.175	1740	220	0.19	95	57	60	4.5	3.9	50
	10	2010	350.880	1740	220	0.20	95	57	60	4.5	3.9	50
	15	2015	355.560	1740	220	0.20	95	56	60	4.5	3.9	50
	20	2020	360.310	1740	225	0.195	95.5	56	60	4.5	3.9	50
	25	2025	364.900	1740	225	0.20	95.5	56	60	4.5	3.9	50
	30	2030	369.570	1740	220	0.195	95.5	55	59	4.5	3.9	50
	35	2035	374.320	1740	225	0.195	95.5	55	59	4.5	3.9	52
	40	2040	378.920	1740	225	0.195	95.5	55	59	4.5	3.9	55
	45	2045	383.580	1740	230	0.195	95.5	55	59	4.5	3.9	55
	50	2050	388.225	1740	235	0.195	95.5	55	59	4.5	3.9	55
	55	2055	392.925	1740	235	0.195	95.5	55	59	4.5	3.9	55
	60	2100	397.680	1740	235	0.20	95.5	55	59	4.5	3.9	55
	65	2105	402.380	1740	235	0.20	96	55	59	4.5	3.9	55
	70	2110	407.130	1740	235	0.20	95.5	55	59	4.5	3.9	55
	75	2115	411.835	1750	235	0.20	95.5	55	59	4.5	3.9	55
	80	2120	416.535	1740	240	0.20	95.5	54	58	4.5	3.9	55
	85	2125	421.240	1740	235	0.20	95.5	54	58	4.5	3.9	55
	90	2130	425.950	1740	235	0.195	95.5	54	58	4.5	3.9	55
	95	2135	430.760	1750	235	0.205	95.5	54	58	4.5	3.9	55
	100	2140	435.480	1740	235	0.20	95.5	54	58	4.5	3.9	55
	105	2145	440.250	1740	240	0.20	95.5	54	58	4.5	3.9	55
	110	2150	445.000	1740	240	0.20	95.5	54	58	4.5	3.9	55
COMMENTS:	115	2155	449.780	1750	240	0.20	95.5	53	57	4.5	3.9	52
	120	2200	454.565	1740	240	0.20	95.5	53	57	4.5	3.9	52

END TEST # SCA-54

EPA (Dur) 235
4/72

FIE

PLANT Sobin
DATE 9-(27-28) 74
SAMPLING LOCATION Inlet
SAMPLE TYPE Hg
RUN NUMBER SCA 55
OPERATOR Sab + KKT
AMBIENT TEMPERATURE 48°F
BAROMETRIC PRESSURE 29.72
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE Spec. SS
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL5
METER BOX NUMBER LS-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp
(Use meter temp 55°F)

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F C°	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ Static Pressure stk. psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	2300	108.727									
1	0	2300	108.727	0.57	.138	.138	21.0	58	58	—	4.8	55
1	5	2305	111.880	0.57	.138	.138	21.0	58	56	—	4.8	55
1	10	2310	115.600	0.57	.138	.138	21.0	57	56	—	4.8	55
2	15	2315	119.340	0.58	.140	.140	21.0	57	56	—	4.8	55
1	20	2320	123.060	0.58	.140	.140	21.0	57	55	—	4.8	55
1	25	2325	126.820	0.57	.138	.138	21.0	57	55	—	4.8	55
2	30	2330	130.560	0.58	.140	.140	21.0	57	55	—	4.8	54
2	35	2335	134.320	0.58	.140	.140	21.0	57	55	—	4.8	54
1	40	2340	138.050	0.58	.140	.140	21.0	57	55	-	4.8	54
1	45	2345	141.820	0.58	.140	.140	21.0	57	55	—	4.8	54
2	50	2350	145.550	0.58	.140	.140	21.0	57	55	—	4.8	54
2	55	2355	149.295	0.58	.140	.140	21.0	56	55	-	4.8	54
1	60	2400	153.040	0.59	.142	.142	21.0	56	55	-	4.8	54
1	65	0005	156.810	0.58	0.140	0.140	21.0	56	55		4.8	54
2	70	0010	160.575	0.59	0.142	0.142	21.0	56	55		4.8	55
2	75	0015	164.345	0.58	0.142	0.142	21.0	56	55		4.8	56
1	80	0020	168.080	0.58	0.142	0.142	21.0	56	55		4.8	56
1	85	0025	171.840	0.58	0.142	0.142	21.0	56	55		4.8	56
2	90	0030	175.575	0.58	0.142	0.142	21.0	56	55		4.8	56
2	95	0035	179.330	0.58	0.142	0.142	21.0	56	55		4.8	56
1	100	0040	183.085	0.58	0.142	0.142	21.0	56	55		4.8	56
1	105	0045	186.830	0.59	0.144	0.144	21.0	56	55		4.8	56
2	110	0050	190.570	0.58	0.142	0.142	21.0	56	55		4.8	56
COMMENTS: 2	115	0055	194.295	0.58	0.142	0.142	21.0	56	55		4.8	56
2	120	0100	198.066	END	TEST							

EPA (Dur) 235
4 72

FIEL_ F

PLANT Sobin Chlor-Alkali
DATE 9/27/74 - 9/28/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-56
OPERATOR JEC/SPW
AMBIENT TEMPERATURE 48
BAROMETRIC PRESSURE 29.72
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFH	ORIFICE PRESSURE DIFFERENTIAL ccc.en. (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		PUMP ~~VACUUM, in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX~~ TEMPERATURE, °F OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~ CFH	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	2300	454.56[illegible]5									
	0	2300	454.565	1740	235	0.20	95.5	51	54	4.5	3.9	<50
	5	2305	458 540	1740	235	0.19	95.5	51	54	4.5	3.9	<50
	10	2310	463.360	1740	235	0.205	95.5	51	54	4.5	3.9	<50
	15	2315	468.250	1740	235	0.205	95.5	51	54	4.5	3.9	<50
	20	2320	473.100	1750	235	0.205	95.5	50	53	4.5	3.9	50
	25	2325	477.850	1740	230	0.20	95.5	50	53	4.5	3.9	50
	30	2330	482.560	1740	235	0.195	95.5	50	53	4.5	3.9	50
	35	2335	487.275	1740	235	0.20	95.5	50	53	4.5	3.9	50
	40	2240	491.970	1740	235	0.195	95.5	50	53	4.5	3.9	50
	45	2345	496.700	1740	240	0.20	95.5	50	53	4.5	3.9	50
	50	2350	501.400	1750	235	0.195	95.5	50	53	4.5	3.9	50
	55	2355	506.085	1740	240	0.195	95.5	50	53	4.5	3.9	50
	60	2400	510.780	1740	235	0.195	95.5	50	53	4.5	3.9	50
	65	0005	515.495	1740	240	0.195	95.5	50	53	4.5	3.9	50
	70 -	0010	520.175	1740	240	0.195	95.5	50	53	4.5	3.9	50
	75 -	0015	524.825	1750	240	0.195	95.5	50	53	4.5	3.9	50
	80	0020	529.460	1740	240	0.195	95.5	50	53	4.5	3.9	50
	85 -	0025	534.180	1750	240	0.195	95.5	49	52	4.5	3.9	50
	90 -	0030	538.840	1750	235	0.195	95.5	49	52	4.5	3.9	50
	95 -	0035	534.525	1750	240	0.195	95.5	49	52	4.5	3.9	50
	100 -	0040	548.185	1750	240	0.195	95.5	49	52	4.5	3.9	50
	105 -	0045	552.865	1750	240	0.20	95.5	49	52	4.5	3.9	50
	110 -	0050	557.495	1750	245	0.195	95.5	49	52	4.5	3.9	50
COMMENTS:	115 -	0055	5[illegible]2, 550	1750	245	0.195	95.5	49	52	4.5	3.9	50
EPA (Dur) 235 4/72	120	0100	566, 840	End	test							

Note: Reading for 115 @ 0055 is 562.550

FIE[illegible]

PLANT SOBIN
DATE 23 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER S°GA-57
OPERATOR KK THOMPSON
AMBIENT TEMPERATURE 55°F
BAROMETRIC PRESSURE 29.71
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-SS
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER EC-81
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F		STACK - PSIG	
1	0 - 0200	198.066	0.60	0.146	0.146	21.0	56	53		4.8	58
1	5 - 0205	201.685	0.60	0.146	0.146	21.0	56	54		4.8	58
2	10 - 0210	205.460	0.60	0.146	0.146	21.0	56	54		4.8	58
2	15 - 0215	209.240	0.60	0.146	0.146	21.0	56	54		4.8	58
1	20 - 0220	213.065	0.60	0.146	0.146	21.0	56	54		4.8	59
1	25 - 0225	216.880	0.60	0.146	0.146	21.0	56	54		4.8	59
2	30 - 0230	220.725	0.60	0.146	0.146	21.0	56	54		5.0	60
2	35 - 0235	224.570	0.60	0.146	0.146	21.0	56	54		4.9	60
1	40 - 0240	228.400	0.60	0.146	0.146	21.0	56	54		4.9	61
1	45 - 0245	232.235	0.61	0.148	0.148	21.0	56	54		4.9	61
2	50 - 0250	236.085	0.60	0.146	0.146	21.0	56	55		4.9	61
2	55 - 0255	239.950	0.61	0.148	0.148	21.0	56	55		4.9	61
1	60 - 0300	243.755	0.61	0.148	0.148	21.0	56	55		4.9	61
1	65 - 0305	247.630	0.61	0.148	0.148	21.0	56	55		5.0	61
2	70 - 0310	251.480	0.61	0.148	0.148	21.0	56	55		5.0	62
2	75 - 0315	255.330	0.61	0.148	0.148	21.0	56	55		4.9	63
1	80 - 0320	259.185	0.61	0.148	0.148	21.0	57	55		4.9	63
1	85 - 0325	263.025	0.61	0.148	0.148	21.0	57	55		4.9	63
2	90 - 0330	266.885	0.60	0.146	0.146	21.0	57	55		4.9	63
2	95 - 0335	270.750	0.61	0.148	0.148	21.0	57	55		4.9	63
1	100 - 0340	274.590	0.61	0.148	0.148	21.0	57	55		4.9	63
1	105 - 0345	278.440	0.61	0.148	0.148	21.0	57	55		4.9	63
2	110 - 0350	282.290	0.61	0.148	0.148	21.0	57	56		4.9	63
COMMENTS: 2	115 - 0355	286.130	0.61	0.148	0.148	21.0	57	56		4.9	63
2	120 - 0400	289.948	END	TEST							

EPA (Dur) 235
4/72

PLANT Scbinchlor Alkali
DATE 9/27/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA - ~~[illegible]~~ 58
OPERATOR SPW
AMBIENT TEMPERATURE 51°
BAROMETRIC PRESSURE 29.71
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2URN2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H₂O~~ Inlet CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H₂O Read DESIRED CFM	ACTUAL	STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg Inlet Press	SAMPLE BOX TEMPERATURE, °F outlet Press [illegible]	IMPINGER TEMPERATURE, °F
	0	0200	566.840									
	0 -	0200	566.840	1740	236	0.195	95.0	47	50	4.4	3.9	<50
	5 -	0205	570.910	1740	230	0.185	95.0	47	50	4.4	3.9	<50
	10 -	0210	575.465	1740	235	0.185	95.0	47	50	4.4	3.9	<50
	15 -	0215	579.710	1740	235	0.185	95.0	47	50	4.4	3.9	<50
	20 -	0220	584.085	1740	235	0.180	95.0	47	50	4.4	3.9	<50
	25 -	0225	588.300	1750	230	0.170	95.0	47	50	4.4	3.9	<50
	30 -	0230	592.740	1750	230	0.180	95.0	47	50	4.4	3.9	<50
	35	0235	597.230	1740	235	0.180	95.0	47	50	4.4	3.9	<50
	40 -	0240	601.825	1740	230	0.180	95.5	48	50	4.4	3.9	50
	45 -	0245	606.210	1740	230	0.180	95.5	48	50	4.4	3.9	50
	50 -	0250	610.710	1740	230	0.180	95.5	48	50	4.4	3.9	50
	55 -	0255	615.175	1740	230	0.180	95.5	48	50	4.4	3.9	50
	60 -	0300	619.615	1740	225	0.180	96.0	48	50	4.4	3.9	50
	65 -	0305	624.065	1750	230	0.180	96.0	48	50	4.4	3.9	50
	70 -	0310	628.605	1750	230	0.180	96.0	48	51	4.4	3.9	50
	75 -	0315	632.955	1750	225	0.180	96.0	48	51	4.4	3.9	50
	80 -	0320	637.070	1750	225	0.180	96.0	48	52	4.4	3.9	50
	85 -	0325	641.865	1750	230	0.180	96.0	48	52	4.4	3.9	50
	90 -	0330	646.300	1740	230	0.180	96.0	48	52	4.4	3.9	50
	95 -	0335	650.735	1750	225	0.180	96.0	48	52	4.4	3.9	50
	100	0340	655.175	1750	230	0.180	96.0	49	52	4.4	3.9	50
	105 -	0345	659.600	1750	225	0.180	95.5	49	52	4.4	3.9	50
	110 -	0350	664.000	1750	225	0.180	95.0	50	52	4.4	3.9	50
COMMENTS:	115 -	0355	668.450	1750	230	0.180	95.0	50	52	4.4	3.9	50
	120 -	0400	672.867	End	test							

EPA (Dur) 235
4/72

FIE[illegible]

PLANT SOBIN
DATE 25 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER 8 SCA-59
OPERATOR K K THOMPSON
AMBIENT TEMPERATURE 60°F
BAROMETRIC PRESSURE 29.75
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-SS
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.29
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F		STACK PSIG	
1	0 - 0500	289.948	0.61	0.148	0.148	21	60	58		4.9	60
1	5 - 0505	293.270	0.61	0.148	0.149	21	58	57		4.9	58
2	10 - 0510	297.045	0.61	0.148	0.148	21	58	57		4.9	57
2	15 - 0515	300.850	0.61	0.148	0.148	21	58	57		4.9	59
1	20 - 0520	304.680	0.61	0.148	0.148	21	58	56		4.8	60
1	25 - 0525	308.485	0.61	0.148	0.148	21	58	56		4.8	60
2	30 - 0530	312.315	0.61.	0.148	0.148	21	58	56		4.8	60
2	35 - 0535	316.150	0.60	0.146	0.146	21	58	56		4.8	60
1	40 - 0540	320.000	0.61	0.148	0.148	21	58	56		4.8	60
1	45 - 0545	323.840	0.61	0.148	0.148	21	58	56		4.8	61
2	50 - 0550	327.695	0.61	0.148	0.148	21	58	56		4.8	61
2	55 - 0555	331.530	0.61	0.149	0.148	21	58	56		4.8	62
1	60 - 0600	335.380	0.61	0.148	0.148	21	58	56		4.8	62
1	65 - 0605	339.240	0.61	0.148	0.148	21	58	56		4.8	62
2	70 - 0610	343.075	0.61	0.148	0.149	21	59	57		4.8	63
2	75 - 0615	346.935	0.61	0.148	0.148	21	59	57		4.8	65
1	80 - 0620	350.835	0.61	0.148	0.148	21	59	58		4.8	66
1	85 - 0625	354.640	0.61	0.148	0.148	21	59	58		4.8	65
2	90 - 0630	358.495	0.61	0.148	0.148	21	59	58		4.8	65
2	95 - 0635	362.350	0.61	0.148	0.148	21	59	58		4.8	65
1	100 - 0640	366.200	0.61	0.148	0.148	21	59	58		4.8	65
1	105 - 0645	370.060	0.62	0.150	0.150	21	59	58		4.8	65
2	110 - 0650	373.920	0.62	0.150	0.150	21	59	58		4.9	65
COMMENTS: 2	115 - 0655	377.875	0.62	0.150	0.150	21	59	58		4.9	64
2	120 - 0700	381.633	END	TEST							

EPA (Dur) 235
4 72

FIEL I

PLANT Sohi'l Ulac Alkali
DATE [illegible] : 17r
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SC12 - 60
OPERATOR SRC
AMBIENT TEMPERATURE 60°.F
BAROMETRIC PRESSURE 29.75
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Zord 2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	~~VELOCITY HEAD (Δp_s), in. H_2O~~ Inlet CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O Reqd. DESIRED	ACTUAL	STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg Inlet Press. PSIG	SAMPLE BOX TEMPERATURE, °F Outlet Press. PSIG	IMPINGER TEMPERATURE, °F
		0500	672.267									
	0	0500	672.267	1740	230	0.20	95.0	51	54	4.4	4.0	<50
	5 -	0505	676.910	1740	225	0.185	95.0	51	54	4.4	4.0	<50
	10 -	0510	681.705	1740	230	0.20	95.0	52	54	4.4	4.0	50
	15 -	0515	686.360	1750	240	0.195	95.0	52	54	4.4	4.0	50
	20 -	0530	690.910	1740	250	0.185	95.0	52	54	4.4	4.0	50
	25 -	0525	695.400	1750	250	0.185	95.0	52	54	4.4	4.0	55
	30 -	0530	700.005	1750	240	0.185	95.0	52	54	4.4	4.0	55
	35 -	0535	704.525	1750	240	0.185	96.0	52	54	4.4	4.0	55
	40 -	0540	709.150	1750	240	0.180	95.5	52	54	4.4	4.0	55
	45 -	0545	713.600	1750	245	0.180	95.5	52	54	4.4	4.0	55
	50 -	0550	718.175	1750	240	0.180	95.5	52	54	4.4	4.0	55
	55 -	0555	722.700	1750	240	0.180	95.5	52	54	4.4	4.0	55
	60 -	0600	727.500	1750	245	0.195	95.5	52	54	4.4	4.0	55
	65 -	0605	732.465	1750	240	0.195	95.5	52	54	4.4	4.0	55
	70 -	0610	736.815	1750	240	0.195	95.5	52	54	4.4	4.0	55
	75 -	0615	741.425	1750	240	0.195	95.5	52	54	4.4	4.0	55
	80 -	0620	746.140	1750	215	0.195	95.5	52	54	4.4	4.0	55
	85 -	0625	750.800	1750	215	0.195	95.5	52	54	4.4	4.0	55
	90 -	0630	755.455	1750	245	0.195	95.0	52	54	4.4	4.0	55
	95 -	0635	760.100	1750	240	0.195	95.0	52	54	4.4	4.0	55
	100 -	0640	764.785	1750	240	0.195	95.0	52	54	4.4	4.0	55
	105 -	0645	769.575	1750	245	0.195	95.0	52	54	4.4	4.0	55
	110 -	0650	774.100	1750	240	0.195	95.0	52	54	4.4	4.0	55
COMMENTS:	115 -	0655	778.785	1750	245	0.195	95.0	52	54	4.4	4.0	55
	120 -	0700	783.465	End	test							

EPA (Dur) 235
4/72

G-62

FIE[illegible]

PLANT SOBIN
DATE 9-28-7[illegible]
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-61
OPERATOR JTC
AMBIENT TEMPERATURE 60
BAROMETRIC PRESSURE 29.75
STATIC PRESSURE, (P_s) 4.5
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SPEC 12" SS
NOZZLE I.D. 0.10"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CCI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.78
C FACTOR 1.32
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ACTUAL	STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS psi	IMPINGER TEMPERATURE, °F
1	0	0800	381.633	0.620	0.152	0.152	21	60	59		4.9	60
1	5	0805	384.68	0.620	.152	.152	21	60	59		4.8	60
2	10	0810	388.56	.595	.144	.144	21	60	59		4.8	60
2	15	0815	392.37	.600	.148	.148	21	61	59		4.9	64
1	20	0820	396.21	.600	.145	.148	21	61	59		4.8	64
1	25	0825	400.05	.605	.149	.149	21	61	59		4.8	63
2	30	0830	403.94	.610	.150	.150	21	61	59		4.9	62
2	35	0835	407.76	.610	.150	.150	21	61	59		4.9	60
1	40	0840	411.62	.610	.150	.150	21	61	59		4.9	59
1	45	0845	415.48	.605	.149	.150	21	61	60		4.8	58
2	50	0850	419.35	.595	.147	.147	21	61	60		4.8	58
2	55	0855	423.19	.600	.148	.148	21	61	60		4.8	58
1	60	0900	427.04	.600	.148	.148	21	62	60		4.8	58
1	65	0905	430.90	.600	.148	.148	21	62	60		4.9	58
2	70	0910	434.76	.600	.148	.148	21	62	61		4.8	59
2	75	0915	438.61	.600	.148	.148	21	62	61		4.9	57
1	80	0920	442.47	.600	.148	.148	21	62	61		4.9	57
1	85	0925	446.35	.600	.148	.148	21	62	61		4.8	57
2	90	0930	450.21	.600	.148	.148	21	62	61		4.9	57
2	95	0935	454.06	.600	.148	.148	21	62	61		4.8	57
1	100	0940	457.90	.600	.148	.148	21	62	61		4.9	57
1	105	0945	461.75	.600	.148	.148	21	63	62		4.9	57
2	110	0950	465.62	.600	.148	.148	21	63	62		4.9	57
COMMENTS. 2	115	0955	469.50	.600	.148	.148	21	63	62		4.9	57
2	120	1000	473.361	END	TE	ST	#61					

EPA (Dur) 235
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PLANT Scbin
DATE 9/29/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER S(O)-E2
OPERATOR DTD
AMBIENT TEMPERATURE 55°
BAROMETRIC PRESSURE 29.75
STATIC PRESSURE, (P_s) NA
FILTER NUMBER (s) NA

PROBE LENGTH AND TYPE NA
NOZZLE I.D. NA
ASSUMED MOISTURE, % NA
SAMPLE BOX NUMBER NA
METER BOX NUMBER #2
METER $\Delta H_@$ NA
C FACTOR NA
PROBE HEATER SETTING NA
HEATER BOX SETTING NA
REFERENCE Δp NA

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ~~DESIRED~~	ACTUAL	STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F	~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
	0	0900	783.465	1250	240	.20	95.5	54	56	4.4	3.9	50
	1	0902	Shut-Down Due	To Plant	Repairs		(with [illegible])					
	3	0903	784.42	1250	240	.21	95.5	54	56	4.4	3.9	50
	5	0906	787.06	1250	240	.22	95.5	54	56	4.4	3.9	50
	10	0911	791.95	1250	240	.21	95.5	54	56	4.4	3.9	50
	15	0916	796.45	1250	240	.20	95.5	54	56	4.4	3.9	50
	20	0921	801.46	1210	245	.20	96.0	54	56	4.4	3.9	50
	25	0926	806.35	1240	245	.20	96.0	54	56	4.4	3.9	50
	30	0931	811.06	1240	240	.22	96.0	54	56	4.4	3.9	50
	35	0936	815.09	1250	240	.21	96.0	54	56	4.4	3.9	50
	40	0941	820.91	1250	235	.24	95.5	54	56	4.4	3.9	50
	45	0946	825.90	1250	245	.23	95.5	54	56	4.4	3.9	50
	50	0951	831.09	1250	245	.23	95.5	54	56	4.4	3.9	50
	55	0956	835.92	1240	240	.22	95.5	54	56	4.4	3.9	50
	60	0901	841.54	1250	240	.21	95.5	54	56	4.4	3.9	50
	65	0906	845.72	1250	240	.22	95.5	54	56	4.4	3.9	50
	70	0911	850.62	1250	250	.22	95.5	56	58	4.4	3.9	50
	75	0916	855.53	1250	250	.22	95.5	56	58	4.4	3.9	50
	80	0921	860.48	1250	250	.20	95.5	56	59	4.4	3.9	50
	85	0926	865.43	1250	250	.21	95.5	56	58	4.4	3.9	50
	90	0931	870.37	1250	250	.22	95.5	58	59	4.4	3.9	50
	95	0936	875.30	1250	250	.22	95.5	58	59	4.4	3.9	50
	100	0941	880.28	1250	250	.22	95.5	58	59	4.4	3.9	50
	105	0946	885.23	1250	250	.22	95.5	58	59	4.4	3.9	50
	110	0951	890.17	1250	250	.21	95.5	58	59	4.4	3.9	50
	115	0956	895.07	1250	245	.21	95.5	58	59	4.4	3.9	50
	120	1001	899.931	END								

COMMENTS:

EPA (Dur) 235
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FIE[illegible]

PLANT SOBIN
DATE 9-28-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-63
OPERATOR JTC
AMBIENT TEMPERATURE 62
BAROMETRIC PRESSURE 29.75
STATIC PRESSURE, (P_s) 4.9 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 12" SPEC S.S.
NOZZLE I.D. 0.13"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CLI-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.32
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE,~~ STACK ~~°F~~ STATIC PRESS. psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	1100	473.361	0.605	0.149	.149	21	63	62		4.9	60
1	5	1105	476.18	0.610	.150	.150	21	63	62		4.9	55
2	10	1110	479.99	0.610	.150	.150	21	63	62		4.8	54
2	15	1115	483.88	0.615	.151	.150	21.5	63	62		4.9	54
1	20	1120	487.75	0.610	.150	.150	21.5	63	62		4.8	54
1	25	1125	491.58	0.605	.149	.150	21.5	63	62		4.9	54
2	30	1130	495.45	0.610	.150	.150	21.5	63	62		4.8	54
2	35	1135	499.30	0.610	.150	.150	21.5	63	62		4.9	54
1	40	1140	503.17	0.610	.150	.150	21.5	63	62		4.9	54
1	45	1145	507.04	0.610	.150	.150	21.5	63	62		4.9	55
2	50	1150	510.91	0.610	.150	.150	21.5	64	63		4.9	55
2	55	1155	514.78	0.615	.151	.150	21.5	64	63		4.9	55
1	60	1200	518.67	0.605	.149	.150	21.5	64	63		4.9	55
1	65	1205	522.56	0.605	.149	.150	21.5	65	64		4.8	56
2	70	1210	526.42	0.605	.149	.150	21.5	66	65		4.8	56
2	75	1215	530.30	0.610	.150	.150	21.5	67	65		4.8	57
1	80	1220	534.19	0.610	.150	.150	21.5	67	65		4.9	57
1	85	1225	538.07	0.595	.147	.147	21.5	67	66		5.0	57
2	90	1230	542.00	0.610	.150	.150	21.5	67	66		4.8	57
2	95	1235	545.77	0.600	.148	.148	21.5	67	66		4.8	57
1	100	1240	549.63	0.605	.149	.150	21.5	67	66		4.9	56
1	105	1245	553.53	0.595	.147	.147	21.5	68	67		4.9	56
2	110	1250	557.37	0.600	.148	.148	21.5	69	67		4.9	57
COMMENTS 2	115	1255	561.29	0.600	.148	.148	21.5	69	68		4.9	57
2	120	1300	565.214		END	TEST	#	63				

EPA (Dur) 235
4 72

PLANT Sorin
DATE 4/29/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-64
OPERATOR DJD
AMBIENT TEMPERATURE 60°
BAROMETRIC PRESSURE 24.75
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER #2
METER BOX NUMBER
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O RECIR E-OU		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRESS. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRESS. PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	1100	899.931	1750	260	.20	95.5	60	61	4.4	3.9	50
	5	1105	903.92	1750	255	.19	95.5	60	61	4.4	3.9	50
	10	1110	908.75	1750	255	.21	95.5	60	61	4.4	3.9	55
	15	1115	913.63	1750	255	.21	95.5	60	61	4.4	3.9	55
	20	1120	918.52	1750	255	.22	95.5	60	61	4.4	3.9	55
	25	1125	923.41	1750	255	.21	95.5	60	61	4.4	3.9	55
	30	1130	928.31	1750	255	.21	95.5	60	61	4.4	3.9	55
	35	1135	933.22	1750	255	.21	95.5	61	62	4.4	3.9	55
	40	1140	938.19	1750	255	.21	95.5	61	62	4.4	3.9	55
	45	1145	942.97	1750	250	.19	95.5	61	62	4.4	3.7	60
	50	1150	947.59	1750	250	.19	95.5	61	62	4.4	3.9	60
	55	1155	952.41	1750	255	.21	95.5	62	63	4.4	3.9	60
	60	1200	956.35	1750	255	.21	95.5	62	63	4.4	3.4	60
	65	1205	962.10	1750	260	.20	95.5	62	63	4.4	3.9	60
	70	1210	966.97	1750	260	.22	95.5	62	63	4.4	3.4	60
	75	1215	971.66	1750	220	.20	95.5	62	63	4.4	3.4	60
	80	1220	976.64	1750	220	.21	95.5	62	63	4.4	3.9	60
	85	1225	981.48	1750	265	.21	95.5	63	64	4.4	3.9	60
	90	1230	986.41	1750	265	.21	95.5	63	64	4.4	3.9	60
	95	1235	991.30	1750	240	.21	95.5	63	64	4.4	3.9	55
	100	1240	996.26	1750	250	.21	95.5	63	64	4.4	3.9	55
	105	1246	001.11	1750	250	.22	95.5	63	64	4.4	3.9	55
	110	1250	006.04	1750	250	.22	95.5	63	64	4.4	3.9	55
COMMENTS:	115	1255	010.91	1750	250	.21	95.5	64	65	4.4	3.9	55
	120	1300	015.723	END								

EPA (Dur) 235
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FIE[illegible]

PLANT SOBIN
DATE 9-28-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-65
OPERATOR ITC
AMBIENT TEMPERATURE 72
BAROMETRIC PRESSURE 29.74
STATIC PRESSURE, (P_s) ~4.9 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE SPEC 12' S.S.
NOZZLE I.D. 0.18
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CG1-5
METER BOX NUMBER CS-1
METER $\Delta H_@$ 1.98
C FACTOR 1.32
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O DESIRED	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O ACTUAL	STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE INLET ($T_{m_{in}}$), °F	DRY GAS METER TEMPERATURE OUTLET ($T_{m_{out}}$), °F	PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE,~~ °F STACK STATIC PRESS PSG	IMPINGER TEMPERATURE, °F
1	0	1400	565.214	0.585	0.145	0.145	21.5	[illegible]	[illegible]		4.9	34
1	5	1405	568.14	.590	.146	.145	21.5	72	70		4.9	60
2	10	1410	571.97	.585	.145	.145	21.5	71	70		4.9	58
2	15	1415	575.79	.585	.145	.145	21.5	71	70		4.9	57
1	20	1420	579.63	.585	.145	.145	21.5	71	70		4.9	58
1	25	1425	583.47	.580	.144	.145	21.5	70	69		4.9	58
2	30	1430	587.30	.580	.141	.145	21.5	69	68		4.8	58
2	35	1435	591.15	.585	.145	.145	21.5	69	68		4.9	58
1	40	1440	594.99	.585	.145	.145	21.5	67	68		4.9	58
1	45	1445	598.83	.585	.145	.145	21.5	68	68		4.9	58
2	50	1450	602.67	.580	.144	.145	21.5	68	68		4.9	58
2	55	1455	606.51	.580	.144	.145	21.5	68	67		4.8	58
1	60	1500	610.35	.585	.145	.145	21.5	67	67		4.9	58
1	65	1505	614.19	.580	.144	.145	21.5	68	67		4.9	58
2	70	1510	618.03	.585	.145	.145	21.5	68	67		4.8	58
2	75	1515	621.87	.580	.144	.145	21.5	68	67		4.9	58
1	80	1520	625.72	.580	.144	.145	21.5	67	67		4.9	58
1	85	1525	629.58	.575	.143	.143	21.5	67	67		4.9	58
2	90	1530	633.37	.570	.142	.142	21.5	67	66		4.9	58
2	95	1535	637.19	.570	.142	.142	21.5	67	66		4.9	58
1	100	1540	641.01	.575	.143	.143	21.5	67	66		4.9	58
1	105	1545	644.84	.575	.143	.143	21.5	67	66		4.9	59
2	110	1550	648.67	.575	.143	.143	21.5	67	67		4.9	59
COMMENTS 2	115	1555	651.52	.575	.143	.143	21.5	67	67		4.9	59
2	120	1600	656.296	END		TEST	+3.5					

FIE_ r

PLANT Sc.B.n
DATE 6/25/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER SCA-66
OPERATOR DJD
AMBIENT TEMPERATURE 66°
BAROMETRIC PRESSURE 29.74
STATIC PRESSURE, (P_s) NA
FILTER NUMBER (s) NA

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg INLET PRESS PSIG	SAMPLE BOX TEMPERATURE, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	1402	015.723	1750	250	.23	95.5	66	68	4.4	3.9	50
	5	1407	020.35	1750	250	.19	95.5	66	68	4.4	3.9	50
	10	1412	025.24	1750	245	.20	95.0	66	68	4.4	3.9	55
	15	1417	029.74	1750	245	.19	95.0	66	68	4.4	3.9	55
	20	1422	034.95	1750	240	.23	95.5	66	68	4.4	3.9	55
	25	1427	039.86	1750	240	.21	95.5	65	66	4.4	3.9	55
	30	1432	044.84	1750	240	.22	95.5	64	66	4.4	3.9	55
	35	1437	049.85	1750	240	.22	95.5	64	66	4.4	3.9	55
	40	1442	054.79	1750	250	.21	95.5	64	66	4.4	3.9	55
	45	1447	059.72	1750	250	.21	95.5	64	66	4.4	3.9	55
	50	1452	064.71	1750	245	.22	95.5	64	66	4.4	3.9	55
	55	1457	069.70	1750	245	.22	95.5	64	66	4.4	3.9	55
	60	1502	074.72	1750	250	.21	95.5	64	66	4.4	3.9	55
	65	1507	079.63	1750	250	.21	95.5	64	66	4.4	3.9	55
	70	1512	084.69	1750	250	.22	95.5	64	66	4.4	3.9	55
	75	1517	089.59	1750	245	.21	95.5	64	66	4.4	3.9	55
	80	1522	094.46	1750	245	.22	95.5	64	66	4.4	3.9	55
	85	1527	099.56	1750	250	.22	95.5	64	66	4.4	3.9	55
	90	1532	104.62	1750	250	.22	95.5	64	66	4.4	3.9	55
	95	1537	109.69	1750	250	.22	95.5	64	66	4.4	3.9	55
	100	1542	114.72	1750	250	.22	95.5	64	66	4.4	3.9	55
	105	1547	119.42	1750	250	.22	95.5	64	66	4.4	3.9	55
	110	1552	124.47	1750	245	.21	95.5	64	66	4.4	3.9	55
COMMENTS:	115	1557	129.45	1750	245	.22	95.5	64	66	4.4	3.9	55
	120	1602	134.36	END								

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FIE[illegible]

PLANT Sel[illegible]
DATE [illegible] 79
SAMPLING LOCATION [illegible]
SAMPLE TYPE
RUN NUMBER [illegible] 67
OPERATOR [illegible]
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.67
STATIC PRESSURE, (P_s) 4.8 psig.
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5 Ft. SS
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CC 5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~TRIPLE BOX~~ ~~TEMPERATURE, °F~~ Static Stk. Pressure PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	1705	656.938				C°					
1	0	1705	656.938	0.57	.142	.142	21.5	66	65	-	4.8	62
1	5	1710	660.600	0.57	.142	.142	21.5	66	65	-	4.8	62
2	10	1715	664.365	0.57	.142	.142	21.5	66	65	-	4.8	62
2	15	1720	668.140	0.57	.142	.142	21.5	65	65	-	4.8	59
1	20	1725	671.930	0.57	.142	.142	21.5	65	65	-	4.8	58
1	25	1730	675.700	0.57	.142	.142	21.5	65	65	-	4.8	58
2	30	1735	679.490	0.57	.142	.142	21.5	65	65	-	4.8	58
2	35	1740	683.275	0.57	.142	.142	21.5	64	64	-	4.8	58
1	40	1745	687.060	0.57	.142	.142	21.5	64	63	-	4.8	58
1	45	1750	690.860	0.57	.142	.142	21.5	64	63	-	4.8	58
2	50	1755	694.650	0.57	.142	.142	21.5	64	63	-	4.8	58
2	55	1800	698.440	0.57	.142	.142	21.5	64	63	-	4.8	57
1	60	1805	702.230	0.57	.142	.142	21.5	63	63	-	4.8	57
1	65	1810	706.040	0.57	.142	.142	21.5	63	63	-	4.8	57
2	70	1815	709.830	0.57	.142	.142	21.5	63	63	-	4.8	58
2	75	1820	713.615	0.57	.142	.142	21.5	63	63	-	4.8	58
1	80	1825	717.430	0.57	.142	.142	21.5	63	63	-	4.8	58
1	85	1830	721.210	0.57	.142	.142	21.5	63	63	-	4.8	58
2	90	1835	725.010	0.57	.142	.142	21.5	63	63	-	4.8	58
2	95	1840	728.800	0.58	.144	.144	21.5	63	63	-	4.8	58
1	100	1845	732.565	0.57	.142	.142	21.5	63	62	-	4.8	58
1	105	1850	736.370	0.57	.142	.142	21.5	63	62	-	4.8	58
2	110	1855	740.160	0.57	.142	.142	21.5	63	62	-	4.8	58
COMMENTS: 2	115	1900	743.930	0.57	.142	.142	21.5	63	62	-	4.8	61
2	120	1905	747.747	(stop)	(END	Test)						

EPA (Dur) 235
4 72

FIEL_ I

PLANT Sobin Chlor-Alkali
DATE 9/28/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-68
OPERATOR JEC
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.67
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER Z-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~ RECIRC	ACTUAL		INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F			
	0	1705	135.363									
	0	1705	135.363	1750	230	0.20	95.5	65	68	4.5	3.9	60
	5	1710	140.150	1750	235	0.20	95.5	64	67	4.5	3.9	58
	10	1715	145.045	1750	240	0.20	95.5	64	67	4.5	3.9	58
	15	1720	149.900	1750	.240	0.195	95.5	64	67	4.5	3.9	58
	20	1725	154.800	1750	240	0.195	95.5	64	67	4.5	3.9	65
	25	1730	159.670	1750	.240	0.195	95.5	64	67	4.5	3.9	65
	30	1735	164.575	1740	240	0.20	95.5	64	67	4.5	3.9	65
	35	1740	169.475	1750	245	0.20	95.5	64	67	4.5	3.9	62
	40	1745	174.375	1750	240	0.20	95.5	64	67	4.5	3.9	58
	45	1750	179.275	1750	.235	0.20	95.5	63	66	4.5	3.9	56
	50	1755	184.180	1750	.240	0.205	95.5	63	66	4.5	3.9	56
	55	1800	189.100	1750	240	0.20	95.5	63	66	4.5	3.9	56
	60	1805	194.000	1750	240	0.20	95.5	63	66	4.5	3.9	56
	65	1810	198.885	1750	240	0.205	95.5	63	66	4.5	3.9	56
	70	1815	203.810	1750	240	0.20	95.5	63	66	4.5	3.9	56
	75	1820	208.735	1750	240	0.20	95.5	63	66	4.5	3.9	56
	80	1825	213.610	1750	240	0.20	95.5	63	66	4.5	3.9	56
	85	1830	218.490	1750	240	0.20	95	63	66	4.5	3.9	56
	90	1835	223.385	1740	.240	0.20	96	63	66	4.5	3.9	56
	95	1840	228.275	1740	.240	0.20	95.5	63	66	4.5	3.9	56
	100	1845	233.155	1740	.210	0.20	95.5	63	66	4.5	3.9	56
	105	1850	238.040	1750	240	0.20	95.5	63	66	4.5	3.9	56
	110	1855	242.920	1750	240	0.20	95.5	63	66	4.5	3.9	56
COMMENTS:	115	1900	247.805	1750	235	0.20	95	62	65	4.5	3.9	56
	120	1905	252.665	1750	230	0.20	95.5	62	65	4.5	3.9	56

END TEST #SCA-68

EPA (Dur) 235
4/72

FIE.. r

PLANT (9. 28. 74) Sobin
DATE → R
SAMPLING LOCATION INLet
SAMPLE TYPE Hg
RUN NUMBER SCA G9
OPERATOR Sab
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.65
STATIC PRESSURE, (P_s) 4.8 psig.
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5Pic, SS
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL 5
METER BOX NUMBER ES 1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ → STATIC PRESSURE Stx. PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	0	2-000	747.747				C°					
1	0	2000	747.747	0.57	.142	.142	21.5	63	62	—	4.8	62
1	5	2005	750.590	0.56	.140	.140	21.5	63	62	—	4.8	62
2	10	2010	754.300	0.57	.142	.142	21.5	63	62	—	4.8	58
2	15	2015	758.090	0.57	.142	.142	21.5	63	62	—	4.8	58
1	20	2020	761.865	0.57	.142	.142	21.5	63	62	—	4.8	58
1	25	2025	765.670	0.57	.142	.142	21.5	63	62	—	4.8	58
2	30	2030	769.465	0.57	.142	.142	21.5	63	62	—	4.8	56
2	35	2035	773.290	0.57	.142	.142	21.5	63	62	—	4.8	56
1	40	2040	777.090	0.57	.142	.142	21.5	63	62	—	4.8	56
1	45	2045	780.870	0.57	.142	.142	21.5	63	62	—	4.8	56
2	50	2050	784.630	0.57	.142	.142	21.5	63	62	—	4.8	56
2	55	2055	788.400	0.57	.142	.142	21.5	63	62	—	4.8	56
1	60	2100	792.185	0.57	.142	.142	21.5	63	62	—	4.8	56
1	65	2105	795.965	0.57	.142	.142	21.5	63	62	—	4.8	56
2	70	2110	799.730	0.57	.142	.142	21.5	63	62	—	4.8	56
2	75	2115	803.510	0.57	.142	.142	21.5	63	62	—	4.8	56
1	80	2120	807.280	0.57	.142	.142	21.5	63	62	—	4.8	56
1	85	2125	811.060	0.57	.142	.142	21.5	63	62	—	4.8	56
2	90	2130	814.845	0.57	.142	.142	21.5	63	62	—	4.8	56
2	95	2135	818.620	0.57	.142	.142	21.5	63	62	—	4.8	56
1	100	2140	822.400	0.57	.142	.142	21.5	63	62	—	4.8	57
1	105	2145	826.170	0.57	.142	.142	21.5	63	62	—	4.8	57
2	110	2150	829.955	0.57	.142	.142	21.5	63	62	—	4.8	57
COMMENTS: 2	115	2155	833.750	0.57	.142	.142	21.5	63	62	—	4.8	57
2	120	2200	837.533	STOP	END	TEST						

EPA (Dur) 235
4 72

FIEL_ T

PLANT Scbin Chlor-Alkali
DATE 9/28/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-70
OPERATOR JRC
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.65
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFH	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O) ECCEN.		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM, in. Hg~~ INLET PRES., PSIG.	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~ CFH	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	2000	252.665									
	0	2000	252.665	1750	225	0.20	95.5	62	65	4.5	3.9	58
	5	2005	257.170	1740	225	0.195	95.5	62	65	4.5	3.9	52
	10	2010	261.930	1750	225	0.190	95.5	62	65	4.5	3.9	52
	15	2015	266.730	1750	225	0.20	95.5	62	65	4.5	3.9	54
	20	2020	271.545	1750	225	0.195	95.5	62	65	4.5	3.9	54
	25	2025	276.440	1750	225	0.195	95.5	62	65	4.5	3.9	54
	30	2030	281.200	1750	225	0.190	95.5	62	65	4.5	3.9	54
	35	2035	286.000	1750	225	0.195	95.5	62	65	4.5	3.9	54
	40	2040	290.850	1740	220	0.195	95.5	62	65	4.5	3.9	54
	45	2045	295.670	1740	220	0.195	95.5	62	65	4.5	3.9	54
	50	2050	300.500	1750	220	0.195	95.5	62	65	4.5	3.9	55
	55	2055	305.315	1750	220	0.195	95.5	62	65	4.5	3.9	55
	60	2100	310.125	1740	220	0.20	95.5	62	65	4.5	3.9	55
	65	2105	314.910	1740	220	0.195	95.5	62	65	4.5	3.9	55
	70	2110	319.760	1750	225	0.195	95.5	62	65	4.5	3.9	55
	75	2115	324.600	1750	225	0.20	95.5	62	65	4.5	3.9	55
	80	2120	329.400	1740	220	0.195	95.5	62	65	4.5	3.9	54
	85	2125	334.235	1740	220	0.195	95.5	62	65	4.5	3.9	54
	90	2130	339.170	1740	220	0.195	95.5	62	65	4.5	3.9	54
	95	2135	343.880	1740	220	0.20	95.5	62	65	4.5	3.9	54
	100	2140	348.710	1740	220	0.195	95.5	62	65	4.5	3.9	54
	105	2145	353.550	1740	220	0.20	95.5	62	65	4.5	3.9	54
	110	2150	358.380	1740	220	0.20	95.5	62	65	4.5	3.9	54
COMMENTS:	115	2155	363.180	1740	220	0.20	95.5	62	65	4.5	3.9	54
	120	2200	368.075	1740	220	0.20	95.5	62	65	4.5	3.9	54

END TEST # SCA-70

EPA (Dur) 235
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FIF

PLANT Sobin
DATE 9-(28-29)-74
SAMPLING LOCATION INLet
SAMPLE TYPE Hg
RUN NUMBER SCA-71
OPERATOR Sob + KKT
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.63
STATIC PRESSURE, (P_s)
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 5fac, SS
NOZZLE I.D. 0.12 IN.
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ Stk. Static Pressure PSIG	IMPINGER TEMPERATURE, °F
	0 2300	837.533		DESIRED	ACTUAL	C°	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0 2300	837.533	0.57	.142	.142	21.5	63	62	—	4.8	63
1	5 2305	840.630	0.57	.142	.142	21.5	63	62	—	4.8	62
2	10 2310	844.345	0.57	.142	.142	21.5	63	62	-	4.8	58
2	15 2315	848.150	0.57	.142	.142	21.5	63	62	—	4.8	58
1	20 2320	851.960	0.57	.142	.142	21.5	63	62	—	4.8	58
1	25 2325	855.790	0.57	.142	.142	21.5	63	62	—	4.9	57
2	30 2330	859.560	0.57	.142	.142	21.5	63	62	-	4.8	57
2	35 2335	863.310	0.57	.142	.142	21.5	63	62	—	4.8	57
1	40 2340	867.070	0.57	.142	.142	21.5	63	62	—	4.8	58
1	45 2345	870.835	0.57	.142	.142	21.5	64	63	-	4.8	58
2	50 2350	874.600	0.57	.142	.142	21.5	64	63	—	4.8	58
2	55 2355	878.385	0.57	.142	.142	21.5	64	63	-	4.8	58
1	60 2400	882.180	0.57	0.142	0.142	21.5	64	63	-	4.8	58
1	65-0005	885.935	0.57	0.142	0.142	21.5	64	63	-	4.8	58
2	70-0010	889.720	0.57	0.142	0.142	21.5	64	63		4.8	59
2	75-0015	893.500	0.57	0.142	0.142	21.5	63	63		4.9	59
1	80-0020	897.270	0.57	0.142	0.142	21.5	63	63		4.9	59
1	85-0025	901.045	0.57	0.142	0.142	21.5	63	63		4.9	59
2	90-0030	904.830	0.57	0.142	0.142	21.5	63	63		4.9	59
2	95-0035	908.595	0.57	0.142	0.142	21.5	63	63		4.9	59
1	100-0040	912.390	0.57	0.142	0.142	21.5	63	63		4.9	60
1	105-0045	916.160	0.57	0.142	0.142	21.5	64	63		4.9	60
2	110-0050	919.925	0.57	0.142	0.142	21.5	64	63		4.9	61
COMMENTS: 2	115-0055	923.710	0.57	0.142	0.142	21.5	64	63		4.9	61
2	120-0100	927.480	END	TEST							

EPA (Dur) 235
4 72

PLANT Sobin Chlor - Alkali
DATE 9/28/74 - 9/29/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA - 72
OPERATOR JRC / SP(?)
AMBIENT TEMPERATURE
BAROMETRIC PRESSURE 29.63
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER 2-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O INLET CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O RECYCL		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRES. PSIG	~~SAMPLE BOX TEMPERATURE, °F~~ OUTLET PRES., PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET $(T_{m_{in}})$, °F	OUTLET $(T_{m_{out}})$, °F			
	C	2300	368.075									
	0	2300	368.075	1740	220	0.20	95.5	62	65	4.5	3.9	54
	5	2305	373.390	1740	220	0.205	95.5	62	65	4.5	3.9	54
	10	2310	377.160	1740	220	0.195	95.5	62	65	4.5	3.9	52
	15	2315	381.900	1740	220	0.195	95.5	62	65	4.5	3.9	52
	20	2320	386.660	1750	220	0.195	95	62	65	4.5	3.9	52
	25	2325	391.425	1740	220	0.195	95	62	65	4.5	3.9	52
	30	2330	396.200	1740	220	0.195	95.5	62	65	4.5	3.9	52
	35	2335	400.970	1740	222	0.20	95.5	62	65	4.5	3.9	52
	40	2340	405.710	1740	220	0.19	95.5	62	65	4.5	3.9	54
	45	2345	410.440	1740	220	0.20	95.5	62	65	4.5	3.9	54
	50	2350	415.190	1740	220	0.19	95.5	62	65	4.5	3.9	54
	55	2355	419.960	1740	220	0.195	45.5	62	65	4.5	3.9	54
	60	2400	424.880	1740	225	0.195	95.5	62	65	4.5	3.9	54
	65 -	2405	429.550	1740	220	0.195	95.0	62	65	4.5	3.9	54
	70 -	0010	434.450	1740	220	0.195	95.0	62	65	4.5	3.9	54
	75 -	0015	439.230	1740	220	0.195	95.0	62	65	4.5	3.9	54
	80 -	0020	444.060	1740	220	0.195	95.0	62	65	4.5	3.9	55
	85 -	0025	448.850	1740	220	0.195	95.0	62	65	4.5	3.9	55
	90 -	0030	453.710	1740	220	0.195	95.5	62	65	4.5	3.9	55
	95 -	0035	458.456	1740	215	0.195	95.5	62	65	4.5	3.9	55
	100 -	0040	463.450	1740	220	0.195	95.5	62	65	4.5	3.9	55
	105 -	0045	468.050	1740	220	0.195	95.5	62	65	4.5	3.9	55
	110 -	0050	472.860	1740	220	0.195	95.5	62	65	4.5	3.9	55
COMMENTS:	115 -	0055	477.665	1740	220	0.195	95.5	62	65	4.5	3.9	55
	120 -	0100	482.520	End	test							

EPA (Dur) 235
4/72

FIE

PLANT SOBIN
DATE 29 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-73
OPERATOR K.K.THOMPSON
AMBIENT TEMPERATURE 64°F
BAROMETRIC PRESSURE 29.56
STATIC PRESSURE, (P_s) -
FILTER NUMBER (s) -

PROBE LENGTH AND TYPE SPEC-SS.
NOZZLE I.D. 0.12 IN
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING -
HEATER BOX SETTING -
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F		STACK PSIG	
1	0 -0200	927.480	0.57	0.142	0.142	21.5	64	63		4.9	63
1	5 -0205	931.055	0.57	0.142	0.142	21.5	64	63		4.9	63
2	10 -0210	934.180	0.57	0.142	0.142	21.5	64	63		4.9	62
2	15 -0215	938.560	0.57	0.142	0.142	21.5	64	63		4.9	62
1	20 -0220	942.340	0.57	0.142	0.142	21.5	64	64		4.9	62
1	25 -0225	946.130	0.57	0.142	0.142	21.5	64	64		4.9	64
2	30-0230	949.935	0.56	0.140	0.140	21.5	64	64		4.9	67
2	35-0235	953.740	0.56	0.140	0.140	21.5	64	64		4.9	67
1	40-0240	957.545	0.57	0.132	0.142	21.5	64	64		4.9	67
1	45-0245	961.350	0.57	0.142	0.142	21.5	64	64		4.9	67
2	50-0250	965.160	0.57	0.142	0.142	21.5	64	64		4.9	67
2	55-0255	968.980	0.56	0.140	0.140	21.5	64	64		4.9	67
1	60-0300	972.790	0.57	0.142	0.142	21.5	64	64		4.9	66
1	65-0305	976.620	0.57	0.142	0.142	21.5	64	64		4.9	66
2	70-0310	980.435	0.57	0.142	0.142	21.5	64	64		4.9	65
2	75-0315	984.260	0.57	0.142	0.142	21.5	64	64		4.9	65
1	80-0320	988.090	0.57	0.142	0.142	21.5	64	64		4.9	65
1	85-0325	991.930	0.57	0.142	0.142	21.5	65	64		4.9	65
2	90-0330	995.765	0.57	0.142	0.142	21.5	65	64		4.9	67
2	95-0335	999.500	0.56	0.140	0.142	21.5	65	64		4.9	67
1	100-0340	1003.440	0.56	0.140	0.140	21.5	65	64		4.9	68
1	105-0345	1007.310	0.57	0.142	0.142	21.5	65	64		4.9	68
2	110-0350	1011.070	0.57	0.142	0.142	21.5	65	65		4.9	68
COMMENTS: 2	115-0355	1014.890	0.57	0.142	0.142	21.5	65	65		4.9	68
2	120-0400	1018.709	END	TEST							

EPA (Dur) 235
4 72

PLANT Solvin Chlor Alkali
DATE 9/24/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA - 74
OPERATOR SPW
AMBIENT TEMPERATURE 66°F
BAROMETRIC PRESSURE 29.56
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	~~VELOCITY HEAD (Δp_s), in. H_2O~~ Inlet CFM	~~ORIFICE PRESSURE DIFFERENTIAL~~ (ΔH), ~~in. H_2O~~		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	0200	482.520				Inlet					
	0-	0200	482.520	1750	220	.190	95.0	62	65	[illegible]	3.9	57
	5-	0205	487.235	1750	225	.185	95.0	62	65	4.5	3.9	57
	10-	0210	491.950	1750	225	.20	95	62	65	4.5	3.9	57
	15-	0215	497.470	1750	220	.185	95	62	65	4.5	3.9	57
	20-	0220	501.435	1750	220	.185	95	62	65	4.5	3.9	57
	25-	0225	506.000	1750	215	.180	95	62	65	4.5	3.9	57
	30-	0230	510.200	1750	215	.180	95	62	65	4.5	3.9	57
	35-	0235	515.200	1750	220	.180	95	62	65	4.5	3.9	57
	40-	0240	519.805	1750	220	.180	95	62	65	4.5	3.9	57
	45-	0245	524.385	1750	220	.185	95	62	65	4.5	3.9	57
	50-	0250	528.840	1750	220	.185	95	62	65	4.5	3.9	57
	55-	0255	533.600	1750	215	.185	95.5	62	65	4.5	3.9	60
	60-	0300	538.305	1750	220	.190	95.5	62	65	4.5	3.9	60
	65-	0305	543.000	1750	220	.190	95.5	62	65	4.5	3.9	60
	70-	0310	547.725	1750	220	.190	95.5	62	65	4.5	3.9	60
	75-	0315	552.445	1750	220	.190	95.5	62	65	4.5	3.9	60
	80-	0320	557.305	1750	220	.190	95.5	62	65	4.5	3.9	60
	85-	0325	561.875	1750	220	.190	95.5	62	65	4.5	3.9	60
	90-	0330	566.610	1750	220	.190	95.5	62	65	4.5	3.9	60
	95-	0335	571.900	1750	220	.190	95.5	62	65	4.5	3.9	60
	100-	0340	576.610	1750	220	.190	95.5	62	65	4.5	3.9	60
	105-	0345	580.750	1750	210	.190	95.5	62	65	4.5	3.9	60
	110	0350	585.575	1750	210	.195	95.5	62	65	4.5	3.9	60
COMMENTS:	115	0355	590.150	1750	215	.195	95.5	62	65	4.5	3.9	60
	120	0400	594.830	End	test							

EPA (Dur) 235
4/72

FIEL

PLANT SOBIN
DATE 29 SEPT 74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-75
OPERATOR K K THOMPSON
AMBIENT TEMPERATURE 65°F
BAROMETRIC PRESSURE 29.47
STATIC PRESSURE, (P_s) –
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE SPEC-SS.
NOZZLE I.D. 0.12 in
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY ______ MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min / CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
				DESIRED	ACTUAL	°C INLET	INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F		STACK PSIG	
	0 - 0500	18.709	0.56	0.140	0.140	21.5	66	65		4.9	66
	5 - 0505	22.050	0.56	0.140	0.140	21.5	66	65		4.9	66
	10 - 0510	25.780	0.56	0.140	0.140	21.5	66	65		4.9	66
	15 - 0515	29.540	0.56	0.140	0.140	21.5	66	65		4.9	67
	20 - 0520	33.260	0.56	0.140	0.140	21.5	66	66		4.9	68
	25 - 0525	36.990	0.55	0.138	0.138	21.5	66	65		4.9	65
	30 - 0530	40.725	0.56	0.140	0.140	21.5	66	65		4.9	65
	35 - 0535	44.450	0.56	0.140	0.140	21.5	66	65		4.9	65
	40 - 0540	48.205	0.56	0.140	0.140	21.5	66	65		4.9	65
	45 - 0545	51.950	0.55	0.138	0.138	21.5	66	65		4.9	68
	50 - 0550	55.690	0.55	0.138	0.138	21.5	65	65		4.9	68
	55 - 0555	59.270	.55	0.138	0.138	21.5	65	65		4.9	68
	60 - 0600	63.060	0.55	0.138	0.138	21.5	65	65		4.9	65
	65 - 0605	66.740	0.55	0,138	0.138	21.5	65	65		4.9	66
	70 - 0610	70.425	0.55	0,138	0.138	21.5	66	65		4.9	66
	75 - 0615	74.150	0.55	0.138	0.138	21.5	66	65		4.9	66
1	90 - 0620	77.790	0.55	0.138	0.138	22	66	65		4.9	66
1	85 - 0625	81.475	0.55	0.138	0.138	22	66	65		4.9	66
2	90 - 0630	85.140	0.55	0.138	0.138	22	66	65		4.9	66
2	95 - 0635	88.830	0.55	0.138	0.138	22	66	65		4.9	66
1	100 - 0640	92.510	0.55	0.138	0.138	22	66	65		4.9	65
1	105 - 0645	96.200	0.55	0.138	0.138	22	66	65		4.9	65
2	110 - 0650	99.890	0.55	0.138	0.138	22	66	65		4.9	65
COMMENTS: 2	115 - 0655	103.580	0.55	0.138	0.138	22	66	65		4.9	65
2	120 - 0700	107.270	END	TEST							

EPA (Dur) 235
4/72

PLANT Schin/Chlor Alkali
DATE 9/29/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA 76
OPERATOR SPW
AMBIENT TEMPERATURE 60° ~~[illegible]~~ F
BAROMETRIC PRESSURE 29.47
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER CL-4
METER BOX NUMBER ZeqN-2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	~~VELOCITY HEAD (Δp_s), in. H₂O~~ Inlet CFan	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H₂O DESIRED	ACTUAL	STACK TEMPERATURE (T_s), °F Inlet	DRY GAS METER TEMPERATURE INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F	PUMP VACUUM, in. Hg Inlet [illegible]	SAMPLE BOX TEMPERATURE, °F Outlet [illegible]	IMPINGER TEMPERATURE, °F
	0	0500	594. 830									
	0 -	0500	594. 830	1740	210	0.20	95.5	64	66	4.5	3.9	60
	5 -	0505	599. 395	1740	210	0.18	95.5	64	66	4.5	3.9	60
	10 -	0510	604. 000	1740	210	0.19	95.5	64	66	4.5	3.9	60
	15 -	0515	608. 765	1740	210	0.19	95.5	64	66	4.5	3.9	60
	20 -	0520	613. 850	1740	215	0.225	95.5	64	66	4.5	3.9	60
	25 -	0526	618. 775	1740	215	0.215	95.5	64	66	4.5	3.9	60
	30 -	0530	623. 725	1740	215	0.215	95.5	64	66	4.5	3.9	60
	35 -	0535	628. 710	1740	215	0.215	95.0	64	66	4.5	3.9	60
	40 -	0540	633. 715	1740	210	0.215	95.0	64	66	4.5	3.9	60
	45 -	0545	638. 665	1740	215	0.215	95.5	64	66	4.5	3.9	~~[illegible]~~ 65
	50 -	0550	643. 750	1740	215	0.215	95.5	64	66	4.5	3.9	65
	55 -	0555	648. 650	1740	215	0.215	95.5	64	66	4.5	3.9	65
	60 -	0600	653. 625	1740	215	0.213	95.0	64	66	4.5	3.9	65
	65 -	0605	658. 610	1740	215	0.215	95.0	64	66	4.5	3.9	65
	70 -	0610	663. 735	1740	215	0.22	95.0	64	66	4.5	3.9	65
	75 -	0615	668. 825	1740	210	0.22	95.0	64	66	4.5	3.9	65
	80 -	0620	673. 065	1740	215	0.22	95.0	64	66	4.5	3.9	65
	85 -	0625	679. 100	1740	215	0.22	95.0	64	66	4.5	3.9	65
	90 -	0630	684. 165	1740	215	0.22	95.0	64	66	4.6	3.9	65
	95 -	0635	689. 335	1740	215	0.22	95.0	64	66	4.5	3.9	65
	100 -	0640	694. 400	1740	215	0.22	95.5	64	66	4.5	3.9	65
	105 -	0645	699. 530	1740	210	0.22	95.5	64	66	4.5	3.9	65
	110 -	0650	704. 600	1750	210	0.22	95.0	64	66	4.5	3.9	65
COMMENTS:	115 -	0655	709. 745	1750	215	0.22	95.0	64	66	4.5	3.9	65
EPA (Dur) 235 4/72	120 -	0700	714. 866	final	test							

FIE[illegible]

PLANT SOBIN
DATE 9-29-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-77
OPERATOR JTC
AMBIENT TEMPERATURE 65
BAROMETRIC PRESSURE 29.45
STATIC PRESSURE, (P_s) ~4.9 psig
FILTER NUMBER (s) –

PROBE LENGTH AND TYPE 12" SPEC. SS.
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CL1-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.33
PROBE HEATER SETTING –
HEATER BOX SETTING –
REFERENCE Δp –

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS. psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
1	0	[illegible]	107.270	0.545	0.137	–	21.5	65	65		4.9	65
1	5	0805	109.80	.545	.137	.137	21.5	65	65		4.9	65
2	10	0810	113.40	.550	.138	.138	21.5	65	65		4.9	65
2	15	0815	117.12	.550	.138	.138	21.5	65	65		4.8	64
1	20	0820	120.[illegible]88	.550	.138	.138	21.5	65	65		4.8	62
1	25	0825	124.63	.550	.138	.138	21.5	65	65		4.9	62
2	30	0830	128.38	.545	.137	.138	21.5	65	65		4.8	62
2	35	0835	132.12	.545	.137	.138	21.5	65	65		4.8	62
1	40	0840	135.93	.550	.138	.138	21.5	65	65		4.8	62
1	45	0845	139.67	.550	.133	.138	21.5	65	65		4.9	62
2	50	0850	143.45	.555	.139	.138	21.5	65	65		4.8	62
2	55	0855	147.23	.550	.138	.138	21.5	66	65		4.8	62
1	60	0900	151.00	.545	.137	.138	21.5	65	65		4.8	62
1	65	0905	154.80	.550	.138	.138	21.5	66	65		4.9	62
2	70	0910	158.58	.550	.138	.138	21.5	66	65		4.8	62
2	75	0915	162.37	.545	.137	.138	21.5	66	65		4.8	62
1	80	0920	166.14	.550	.138	.138	21.5	66	65		4.8	62
1	85	0925	169.93	.550	.138	.138	21.5	65	66		4.9	62
2	90	0930	173.71	.545	.137	.138	21.5	65	65		4.9	62
2	95	0935	177.50	.545	.132	.138	21.5	65	65		4.9	62
1	100	0940	181.28	.550	.138	.138	21.5	65	65		4.8	62
1	105	0945	185.09	.545	.137	.138	21.5	65	65		4.9	63
2	110	0950	188.88	.545	.137	.138	21.5	65	65		4.9	63
COMMENTS: 2	115	0955	192.63	.545	.137	.138	21.5	65	65		4.9	63
2	120	1000	196.44									

EPA (Dur) 235
4 72

PLANT Sabin
DATE 9/24/74
SAMPLING LOCATION Outlet
SAMPLE TYPE XA-78
RUN NUMBER M3
OPERATOR DJD
AMBIENT TEMPERATURE 60°
BAROMETRIC PRESSURE 29.45
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, ~~in. Hg~~ INLET PRESS PSIG	~~SAMPLE BOX~~ TEMPERATURE, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	0900	714.965	1750	235	.22	95.5	64	66	4.4	3.9	50
	5	0905	719.28	1750	235	.22	95.5	64	66	4.4	3.9	50
	10	0910	724.17	1750	245	.21	95.5	64	66	4.4	3.9	55
	15	0915	729.15	1750	245	.23	95.5	64	66	4.4	3.9	55
	20	0920	734.16	1740	250	.23	95.5	64	66	4.4	3.9	55
	25	0925	739.19	1740	245	.23	95.5	64	66	4.4	3.9	60
	30	0930	744.17	1740	245	.23	95.5	64	66	4.4	3.9	60
	35	0935	749.19	1740	245	.23	95.5	64	66	4.4	3.9	60
	40	0940	754.22	1740	245	.22	95.5	64	66	4.4	3.9	60
	45	0945	759.24	1740	245	.23	95.5	64	66	4.4	3.9	60
	50	0950	764.27	1740	250	.23	95.5	64	66	4.4	3.9	60
	55	0955	769.29	1740	250	.22	96.0	64	66	4.4	3.9	60
	60	0900	774.29	1740	250	.23	96.0	64	66	4.4	3.9	60
	65	0905	779.30	1740	250	.23	96.0	64	66	4.4	3.9	65
	70	0910	784.32	1740	250	.23	96.0	64	66	4.4	3.9	65
	75	0915	789.34	1740	250	.23	96.0	64	66	4.4	3.9	65
	80	0920	794.35	1740	245	.23	95.5	64	66	4.4	3.9	65
	85	0925	799.39	1740	245	.23	95.0	64	66	4.4	3.9	65
	90	0930	804.42	1740	250	.23	95.5	64	66	4.4	3.9	65
	95	0935	809.47	1740	250	.23	95.5	64	66	4.4	3.9	60
	100	0940	814.42	1740	250	.23	95.5	64	66	4.4	3.9	60
	105	0945	819.49	1740	250	.23	95.5	64	66	4.4	3.9	60
	110	0950	824.49	1740	250	.23	95.5	64	66	4.4	3.9	60
COMMENTS:	115°	0955	829.51	1740	250	.23	95.5	64	66	4.4	3.9	60
	120	1000	834.520	END TEST								

EPA (Dur) 235
4/72

FIEL. .

PLANT SCBIN
DATE 9-25-74
SAMPLING LOCATION INLET
SAMPLE TYPE Hg
RUN NUMBER SCA-79
OPERATOR JTC
AMBIENT TEMPERATURE 65
BAROMETRIC PRESSURE 29.23 @ 1155
STATIC PRESSURE, (P_s) ~ 4.9 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 12" SPEC SS
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CC1-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.98
C FACTOR 1.32
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	SAMPLE BOX TEMPERATURE, °F	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m_{in}}$), °F	OUTLET ($T_{m_{out}}$), °F			
1	0	1100	196.441	0.540	.136	-	21.5	67	66		5.0	64
1	5	1105	199.62	0.540	.136	.136	21.5	67	66		4.8	63
2	10	1110	203.25	.540	.136	.136	21.5	66	66		4.9	63
2	15	1115	206.89	.540	.136	.136	21.5	66	66		4.9	61
1	20	1120	210.55	.540	.136	.136	21.5	66	66		4.9	59
1	25	1125	214.21	.540	.136	.136	21.5	66	66		4.9	58
2	30	1130	217.87	.540	.136	.136	21.5	66	66		4.4	58
2	35	1135	221.55	.540	.136	.136	21.5	66	66		4.9	59
1	40	1140	225.20	.535	.135	.135	21.5	66	66		4.8	59
1	45	1145	228.88	.530	.134	.135	21.5	66	66		5.0	59
2	50	1150	232.55	.530	.134	.135	21.5	66	66		4.9	58
2	55	1155	236.24	.535	.135	.135	21.5	66	66		4.9	58
1	60	1200	239.91	.530	.134	.135	21.5	66	65		4.9	58
1	65	1205	243.62	.535	.135	.135	21.5	66	65		4.9	57
2	70	1210	247.28	.535	.135	.135	21.5	66	65		4.8	57
2	75	1215	250.96	.535	.135	.135	21.5	66	65		4.9	54
1	80	1220	254.65	.540	.136	.135	21.5	66	65		4.9	52
1	85	1225	258.34	.535	.135	.135	21.5	66	65		4.9	52
2	90	1230	262.03	.540	.136	.135	21.5	66	65		4.9	51
2	95	1235	265.72	.540	.136	.135	21.5	66	65		4.9	51
1	100	1240	269.40	.540	.136	.135	21.5	66	65		4.9	51
1	105	1245	273.08	.540	.136	.135	21.5	66	65		4.8	51
2	110	1250	276.76	.535	.135	.135	21.5	66	65		4.9	51
COMMENTS 2	115	1255	280.45	.540	.136	.135	21.5	66	65		4.8	51
	120	1300	284.152	END	TEST		#79					

EPA (Dur) 235
4 72

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FIEL T

PLANT Sabin
DATE 9/29/74
SAMPLING LOCATION Outlet
SAMPLE TYPE Hg
RUN NUMBER SCA-90
OPERATOR DTD
AMBIENT TEMPERATURE 65°
BAROMETRIC PRESSURE 29.32
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP~~ VACUUM, in. Hg INLET PRESS PSIG	~~SAMPLE BOX~~ TEMPERATURE, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET ($T_{m\,in}$), °F	OUTLET ($T_{m\,out}$), °F			
	0	1100	934.520	1740	260	.21	95.0	64	66	4.4	3.9	55
	5	1105	939.94	1740	255	.20	95.0	64	66	4.4	3.9	55
	10	1110	943.99	1740	255	.22	95.0	64	66	4.4	3.9	55
	15	1115	948.91	1740	255	.22	95.0	64	66	4.4	3.9	55
	20	1120	953.86	1740	265	.22	95.5	64	66	4.4	3.9	55
	25	1125	958.91	1740	260	.21	95.5	64	66	4.4	3.9	55
	30	1130	963.78	1740	255	.22	95.5	64	66	4.4	3.9	55
	35	1135	968.63	1740	255	.21	95.5	64	66	4.4	3.9	55
	40	1140	973.61	1740	260	.22	95.0	64	66	4.4	3.9	60
	45	1145	978.59	1740	220	.22	95.5	64	66	4.4	3.9	60
	50	1150	983.54	1740	265	.22	95.5	64	66	4.4	3.4	60
	55	1155	988.61	1740	270	.22	95.5	64	66	4.4	3.9	60
	60	1200	993.59	1740	270	.22	95.5	64	66	4.4	3.9	60
	65	1205	998.60	1740	265	.22	95.5	64	66	4.4	3.4	60
	70	1210	903.54	1740	270	.22	95.5	64	66	4.4	3.9	60
	75	1215	908.56	1740	270	.22	95.5	64	66	4.4	3.9	60
	80	1220	913.54	1740	220	.22	95.5	64	66	4.4	3.9	60
	85	1225	918.51	1740	270	.22	95.5	64	66	4.4	3.9	60
	90	1230	923.49	1740	220	.22	95.5	64	66	4.4	3.9	60
	95	1235	928.43	1740	220	.22	95.5	64	66	4.4	3.9	60
	100	1240	933.39	1740	220	.22	95.5	64	66	4.4	3.9	60
	105	1245	938.34	1740	265	.22	95.5	64	66	4.4	3.4	60
	110	1250	943.39	1740	220	.22	95.5	64	66	4.4	3.9	60
COMMENTS:	115	1255	948.26	1740	260	.22	95.5	64	66	4.4	3.9	60
	120	1300	953.19	END								

EPA (Dur) 235
4 72

FIE[illegible]

PLANT SORIN
DATE 9-29-74
SAMPLING LOCATION INLET (A-1 ON LINE)
SAMPLE TYPE Hg
RUN NUMBER SCA-81
OPERATOR JTC
AMBIENT TEMPERATURE 65
BAROMETRIC PRESSURE 29.16
STATIC PRESSURE, (P_s) ~4.9 psig
FILTER NUMBER (s) —

PROBE LENGTH AND TYPE 12" SPEC. SS
NOZZLE I.D. 0.12"
ASSUMED MOISTURE, % 3
SAMPLE BOX NUMBER CU-5
METER BOX NUMBER ES-1
METER $\Delta H_@$ 1.88
C FACTOR 1.32
PROBE HEATER SETTING —
HEATER BOX SETTING —
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft^3	VELOCITY HEAD (Δp_s), in. H_2O	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), ~~°F~~ °C	DRY GAS METER TEMPERATURE		PUMP VACUUM, in. Hg	~~SAMPLE BOX TEMPERATURE, °F~~ STACK STATIC PRESS psig	IMPINGER TEMPERATURE, °F
					DESIRED	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
1	0	1505	284.152	0.535	0.134	—	21.5	66	66		4.9	63
1	5	1510	286.25	.540	0.135	.135	21.5	66	66		4.9	61
2	10	1515	289.96	.535	.134	.135	21.5	66	66		4.9	61
2	15	1520	293.62	.535	.134	.135	21.5	66	66		4.9	60
1	20	1525	297.29	.540	.135	.135	21.5	66	66		4.9	59
1	25	1530	300.97	.535	.134	.135	21.5	66	65		4.9	59
2	30	1535	304.67	.535	.134	.135	21.5	66	65		4.9	58
2	35	1540	308.37	.535	.134	.135	21.5	66	65		4.9	58
1	40	1545	312.08	.535	.134	.135	21.5	66	65		4.9	58
1	45	1550	315.73	.535	.134	.135	21.5	66	65		4.9	59
2	50	1555	319.40	.535	.134	.135	21.5	66	65		5.0	59
2	55	1600	323.08	.535	.134	.135	21.5	66	65		4.9	59
1	60	1605	326.77	.530	.134	.135	21.5	66	65		4.9	59
1	65	1610	330.45	.530	.134	.135	21.5	66	65		4.9	59
2	70	1615	334.13	.530	.134	.135	21.5	66	65		4.9	59
2	75	1620	337.82	.530	.134	.135	21.5	66	65		4.8	58
1	80	1625	341.52	.530	.134	.135	21.5	66	65		4.9	58
1	85	1630	345.22	.530	.134	.135	21.5	66	65		4.9	58
2	90	1635	348.92	.535	.135	.135	21.5	66	66		4.8	58
2	95	1640	352.61	.535	.135	.135	21.5	66	66		4.9	58
1	100	1645	356.31	.530	.134	.135	21.5	66	66		4.8	58
1	105	1650	360.01	.530	.134	.135	21.5	66	66		4.9	58
2	110	1655	363.72	.530	.134	.135	21.5	66	66		4.8	58
COMMENTS: 2	115	1700	367.41	.535	.135	.135	21.5	66	66		4.9	58
2	120	1705	371.135	END	TEST	#	81					

EPA (Dur) 235
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PLANT Sobin
DATE 9/22/74
SAMPLING LOCATION OUTLET
SAMPLE TYPE Hg
RUN NUMBER SCR-42
OPERATOR DTD
AMBIENT TEMPERATURE 65°
BAROMETRIC PRESSURE 29.16
STATIC PRESSURE, (P_s)
FILTER NUMBER (s)

PROBE LENGTH AND TYPE
NOZZLE I.D.
ASSUMED MOISTURE, %
SAMPLE BOX NUMBER 7
METER BOX NUMBER #2
METER $\Delta H_@$
C FACTOR
PROBE HEATER SETTING
HEATER BOX SETTING
REFERENCE Δp

SCHEMATIC OF TRAVERSE POINT LAYOUT

READ AND RECORD ALL DATA EVERY 5 MINUTES

TRAVERSE POINT NUMBER	SAMPLING TIME, min	CLOCK TIME (24 hr CLOCK)	GAS METER READING (V_m), ft³	VELOCITY HEAD (Δp_s), in. H_2O CFM	ORIFICE PRESSURE DIFFERENTIAL (ΔH), in. H_2O		STACK TEMPERATURE (T_s), °F INLET	DRY GAS METER TEMPERATURE		~~PUMP VACUUM~~, in. Hg INLET PRESS PSIG	~~SAMPLE BOX TEMPERATURE~~, °F OUTLET PRESS PSIG	IMPINGER TEMPERATURE, °F
					~~DESIRED~~	ACTUAL		INLET $(T_{m\,in})$, °F	OUTLET $(T_{m\,out})$, °F			
	0	1505	953.190	1730	250	.22	955	64	66	4.4	3.4	50
	5	1510	957.19	1730	250	.21	95.5	64	66	4.4	3.9	50
	10	1515	962.09	1740	250	.21	95.5	64	66	4.4	3.9	50
	15	1520	967.04	1740	255	.21	96.0	64	66	4.4	3.9	55
[illegible]	20	1525	968.49	1740	255	.	96.0	64	66	4.4	3.9	55
	25	1530	972.94	1740	255	.22	95.5	64	66	4.4	3.9	55
	30	1535	977.97	1740	245	.22	95.5	64	66	4.4	3.9	60
	35	1540	982.75	1740	250	.21	95.5	64	66	4.4	3.9	60
	40	1545	987.65	1740	250	.21	95.5	64	66	4.4	3.9	60
	45	1550	992.56	1740	250	.22	95.5	64	66	4.4	3.9	60
	50	1555	992.54	1740	255	.22	95.5	64	66	4.4	3.9	60
	55	1600	002.41	1740	255	.22	95.5	64	66	4.4	3.9	60
	60	1605	007.34	1740	255	.22	95.5	64	66	4.4	3.9	60
	65	1610	012.25	1740	255	.22	95.5	64	66	4.4	3.9	60
	70	1615	017.19	1740	250	.22	95.5	64	66	4.4	3.9	60
	75	1620	022.33	1740	250	.22	96.0	64	66	4.4	3.9	60
	80	1625	022.44	1740	250	.22	96.0	64	66	4.4	3.9	60
	85	1630	032.61	1740	250	.22	96.0	64	66	4.4	3.9	60
	90	1635	037.74	1740	250	.23	95.5	64	66	4.4	3.9	60
	95	1640	042.91	1740	255	.23	95.5	64	66	4.4	3.9	60
	100	1645	047.96	1740	255	.23	95.5	64	66	4.4	3.9	60
	105	1650	053.09	1740	255	.22	955	64	66	4.4	3.9	60
	110	1655	058.09	1740	250	.23	95.5	64	66	4.4	3.4	60
COMMENTS:	115	1200	063.12	1740	250	.23	95.5	64	66	4.4	3.9	60
	120	1705	068.175	END								—
	1653 Siva CHANGEOVER											

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4/72

APPENDIX H

FIELD CLEANUP SHEETS

SOBIN LAB-CLEAN-UP

ON ALL TEST RUNS 300 ML OF ICL WAS USED EQUALLY IN THE FIRST THREE IMPINGERS, PLUS 100 ML OF ICL IN THE CLEANING PROCESS

RUN NO.	SILICA GEL		CONDENSATE		ICL TOTAL	TOTAL CATCH
	INITIAL	FINAL	INITIAL	FINAL		
SCA-1 INLET	234.9	256.1	300	310	410 ML	31.2
SCA-2 OUTLET	222.4	242.3	300	335	435 ML	54.9
SCA-3 INLET	247.7	266.2	300	312	412 ML	30.5
SCA-4 OUTLET	240.6	262.5	300	311	411 ML	32.9
SCA-5 INLET	229.5	248.0	300	312	412 ML	30.5
SCA-6 OUTLET	233.5	253.2	300	318	418 ML	37.7
SCA-7 INLET	238.0	255.9	300	310	410 ML	27.9
SCA-8 OUTLET	231.7	250.5	300	316	416 ML	34.8
SCA-9 INLET	233.2	251.8	300	312	412 ML	30.6
SCA-10 OUTLET	216.0	229.7	300	325	425 ML	38.7

PROJECT__________ JOB NO.____ DATE______ SHT. 1

DETAIL__________ BY______ OF 1

Sorbin Lab Clean Up

Run No	Silica Gel		Condensate		Total ICL	Total Con
	Initial	Final	Initial	Final		
SCA-11-Inlet	234.0	254.5	300	310	410 mL	20.5
SCA-12-Outlet	234.5	252.0	300	330	430 mL	47.5
SCA-13 Inlet	234.6	242.5	300	310	410 mL	27.9
SCA-14 Outlet	223.6	245.9	300	335	435 mL	57.3
SCA-15 Inlet	231.5	249.9	300	315	415 mL	33.4
SCA-16 Outlet	220.3	247.5	300	345	445 mL	66.2
SCA-17 Inlet	236.5	254.4	300	315	415 mL	32.9
SCA-18 Outlet	234.6	257.8	300	320	420 mL	43.2
SCA-19 Inlet	230.0	251.2	300	310	410 mL	31.2
SCA-20 Outlet	225.1	248.9	300	308	409 mL	31.8 ~~30.9~~
SCA-21 Inlet	223.0	245.0	300	310	410 mL	32.0
SCA-22 Outlet	236.2	257.0	300	308	408 mL	28.8
SCA-23 Inlet	227.1	248.6	—	315	415 mL	36.5
SCA-24 Outlet	224.5	248.2	-	310	410 mL	33.7
SCA-25 Inlet	234.8	253.5	—	318	418 mL	36.7
SCA-26 Outlet	239.5	200.6	—	314	414 mL	35.1
SCA-27 Inlet	227.1	251.4	—	313	413 mL	37.3
SCA-28 Outlet	223.0	251.7	-	320	420 mL	48.7
SCA-29 Inlet	247.5	260.9	✓	320	420 mL	33.4
SCA-30 Outlet	233.1	237.9	✓	320	420 mL	24.9
SCA-31 Inlet	241.9	258.3	✓	325	425 mL	41.4
SCA-32 Outlet	239.7	265.1	✓	318	418 mL	43.4
SCA-33 Inlet	230.6	252.3	✓	311	411 mL	32.7
SCA-34 Outlet	242.6	266.7	✓	316	416 mL	40.1
SCA-35 Inlet	249.9	263.3	✓	300	400 mL	13.4
SCA-36 Outlet	234.9	253.7	✓	295	395 mL	13.8
SCA-37-Inlet	238.3	252.3	300 mL	308	408 mL	22.0
SCA-38-Outlet	232.3	249.8	300 mL	305	405 mL	22.5
SCA-39-Inlet	229.7	261.3	✓	313	413 mL	34.6
SCA-40 Outlet	233.9	256.8	✓	310	410 mL	32.9
SCA-41 Inlet	230.7	252.4	✓	316	416 mL	37.7
SCA-42 Outlet	236.1	262.3	✓	320	420 mL	46.2
SCA-43 Inlet	236.2	256.7	✓	313	413 mL	33.5
SCA-44 Outlet	231.1	255.8	✓	320	420 mL	44.7

PROJECT ______ JOB NO. ______ DATE ______ SHT. 2

DETAIL ______ BY ______ OF 4

GOBIN CLEAN-UP

RUN NO	SILICA GEL		CONDENSATE			
	INITIAL	FINAL	INITIAL	FINAL	TOTAL ICL	TOTAL CATCH
SCA-45 INLET	245.5	262.0	300	320	420 ML	36.5
SCA-46 OUTLET	222.5	251.6	300	315	415 ML	44.1
SCA-47 INLET	231.0	251.5	✓	315	415 ML	35.5
SCA-48 OUTLET	222.4	254.5	✓	320	420 ML	52.1
SCA-49 INLET	232.7	261.5	✓	304	404 ML	32.8
SCA-50 OUTLET	236.0	263.9	✓	314	414 ML	41.9
SCA-51 - INLET	226.9	252.3	✓	305	405 ML	30.4
SCA-52 OUTLET	238.7	268.7	✓	306	406 ML	36.0
SCA-53 - inlet	239.8	262.3	✓	310	410 ML	32.5
SCA-54 Outlet	234.5	260.1	✓	309	409 ML	24.6
SCA-55 Inlet	235.4	246.8	—	312	412 ML	23.4
SCA-56 OUTLET	239.5	250.9	—	311	411 ML	22.4
SCA-57 INLET	236.9	256.4	—	310	410 ML	20.5
SCA-58 OUTLET	232.7	249.1	—	316	416 ML	32.4
SCA-59 INLET	225.9	243.1	—	313	413 ML	30.2
SCA-60 OUTLET	241.8	259.8	—	315	415 ML	33.0
SCA-61 INLET	238.3	261.1	✓	315	415 ML	37.8
SCA-62 OUTLET	227.7	254.4	✓	320	420 ML	46.7
SCA-63 INLET	236.8	256.4	✓	315	415 ML	34.6
SCA-64 OUTLET	238.9	267.1	✓	320	420 ML	48.2
SCA-65 INLET	238.0	257.0	✓	312	412 ML	31.0
SCA-66 OUTLET	229.2	256.4	✓	315	415 ML	42.2
SCA-67 Inlet	229.1	253.7	✓	308	408 ml	32.6
SCA-68 Outlet	237.7	268.3	✓	303	403 ml	33.6
SCA-69 inlet	232.6	254.8	✓	310	410 ml	32.2
SCA-70 outlet	240.9.	265.2	✓	310	410 ml	34.3
SCA-71 INLET	242.8	266.1	300	311	411 ML	34.3
SCA-72 OUTLET	227.8	254.9	–	309	409 ML	36.1
SCA-73 INLET	231.8	262.3	–	309	409 ML	39.5
SCA-74 OUTLET	233.6	260.4	–	309	409 ML	35.8
SCA-75 INLET	237.8	263.8	–	305	405 ML	31.0
SCA-76 OUTLET	235.8	264.9	–	305	405 ML	33.9

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PROJECT ______ JOB NO. ____ DATE ______ SHT. 3

DETAIL ______ BY ______ OF 4

SOBIN CLEAN-UP

RUN NO.	SILICA GEL		CONDENSATE		TOTAL ICL	TOTAL CATCH
	INITIAL	FINAL	INITIAL	FINAL		
SCA-77 INLET	236.0	259.2	✓	315 ML	415 ML	38.2
SCA-78 OUTLET	243.9	273.1	✓	305 ML	405 ML	34.2
SCA-79 INLET	233.6	249.0	✓	315 ML	415 ML	30.4
SCA-80 OUTLET	233.0	260.8	✓	315 ML	415 ML	42.8
SCA-81 INLET	240.0	259.8	✓	315 ML	415 ML	34.8
SCA-82 OUTLET	231.1	256.6	✓	315 ML	415 ML	40.5

PROJECT________ JOB NO.____ DATE______ SHT. 4

DETAIL________ BY______ OF 4

APPENDIX I

INSTRUMENTS AND GAUGES USED TO MONITOR PuraSiv PROCESS CONDITIONS

INSTRUMENTS AND GAUGES USED TO MONITOR PURASIV PROCESS CONDITIONS

Process Parameter	Description of Measuring Device
Gas flow rate to adsorber	Manometer installed at orifice taps; Meriam Instrument Co. Model 30ED25 containing blue oil (sp.gr. 1.75); Range: 0-2500 SCFM H_2 Calibration: 50 SCFM^{2}divisions Resolution: ± 10 SCFM
Regeneration gas flow rate	Manometer installed at orifice taps; Meriam Instrument Co. Model 30ED25 containing blue oil (sp.gr. 1.75); Range: 0-400 SCFM H_2 Calibration: 5 SCFM^{2}divisions Resolution: ± 5 SCFM
Adsorber inlet pressure after preheater	Dial-type pressure indicator; Ashcroft Duragauge Range: 0-30 psig Calibration: 0.2 psig divisions Resolution: ± 0.1 psig
Adsorber outlet pressure	Dial-type pressure indicator; Ashcroft Duragauge Range: 0-30 psig Calibration: 0.2 psig divisions Resolution: ± 0.1 psig
Gas temperature near inlet sampling site	Dial-type temperature indicator; Tel-Tru thermometer Range: 0-100°C Calibration: 1°C divisions Resolution: ± 0.5°C
Gas temperature at preheater outlet	Temperature indicator and controller; Foxboro Model 43A Pneumatic Controller, Range: 80-120°F Calibration: 1°F divisions Resolution: ± 0.5°F
Adsorber inlet pressure before preheater	Dial-type pressure indicator; Ashcroft Duragauge Range: 0-15 psig Calibration: 0.2 psig divisions Resolution: ± 0.1 psig

APPENDIX J

LABORATORY REPORT

COMMONWEALTH LABORATORY
INCORPORATED
CHEMISTS BUILDING, 2209 EAST BROAD STREET
RICHMOND, VIRGINIA 23223

P. O. BOX 8025
AREA CODE 804
TELEPHONE: 648-8358

AIR AND WATER
SAMPLING, ANALYSIS

October 17, 1974

CERTIFICATE OF ANALYSIS

From: SOBIN CHLOR-ALKALI PLANT
Bangor, Maine

For: ENGINEERING-SCIENCE, INC.
EPA Contract #68-02-1406
Task Order #3

Samples analyzed for total mercury as per EPA Method 102 and as described herein.

	SCA INLET	TOTAL MERCURY (milligram,Hg)
9-24-74	Blank	< 0.001
	1	22.36
	3	19.85
	5	20.23
9-25-74	Blank	< 0.001
	7	19.60
	9	19.75
	11	24.97
	13	24.97
	15	20.37
	17	20.00
	19	20.50
	21	20.13
	23	18.11
9-26-74	Blank	< 0.001
	25	18.24
	27	18.02
	29	19.09
	31	20.48
	33	13.82
	35	13.45
	37	11.50
	39	17.27

Continued

	SCA INLET	TOTAL MERCURY (milligram, Hg)
9-27-74	Blank	< 0.001
	41	15.51
	43	17.27
	45	15.65
	47	18.11
	49	19.83
	51	19.88
	53	15.28
	55	18.73
9-28-74	Blank	< 0.001
	57	20.40
	59	17.27
	61	18.11
	63	20.37
	65	22.85
	67	26.71
	69	22.36
9-29-74	Blank	< 0.001
	71	26.90
	73	25.28
	75	23.93
	77	25.65
	79	21.50
	81	23.01

	SCA OUTLET	TOTAL MERCURY, (milligram, Hg)
9-24-74	Blank	< 0.001
	2	11.36
	4	1.64
	6	0.094
9-25-74	Blank	< 0.001
	8	0.003
	10	0.008
	12	< 0.001
	14	0.032
	16	2.79
	18	12.41
	20	1.63
	22	1.63
9-26-74	Blank	< 0.001
	24	0.011
	26	0.008
	28	0.008
	30	0.010
	32	0.741
	34	10.85
	36	0.934
	38	0.035
9-27-74	Blank	< 0.001
	40	0.009
	42	0.005
	44	0.005
	46	0.006
	48	0.006
	50	0.226
	52	0.129
	54	0.008
9-28-74	Blank	< 0.001
	56	0.004
	58	0.003
	60	0.002
	62	0.005
	64	0.099
	66	3.36
	68	1.03
	70	0.006
9-29-74	Blank	< 0.001
	72	0.005
	74	0.002
	76	0.004
	78	0.003
	80	0.302
	82	11.32

APPENDIX K

PROJECT PARTICIPANTS

PROJECT PARTICIPANTS AND TITLES

The actual on-site testing program was conducted by six people. Since the test required around-the-clock sampling, two men were assigned to each of three separate work shifts. Those participants and their respective test levels for this project are listed below.

	Name	Test Level
Shift 1	John T. Chehaske David J. DaCrema	Project Engineer Technician
Shift 2	John R. Cline Sanford Bryant	Engineer Technician
Shift 3	Kim K. Thompson Pete Watson	Assistant Engineer Technician